SONY

HD DIGITAL VIDEO DISTRIBUTION BOARD

HKPF-103M

HDVS

MAINTENANCE MANUAL

1st Edition

Serial No. 10101 and Higher

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理など行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

設置や保守，点検，修理などを行う前に，別冊のインストレーションマニュアルの「安全のために」と別冊のオペレーションマニュアルの「安全のために」を必ずお読みください。

⚠ WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

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Manual Structure

Purpose of this manual

This manual is the maintenance manual of HD DIGITAL VIDEO DISTRIBUTION BOARD HKPF-103M.
This manual is intended for use by service engineers and is provided the information required for the attachment, the maintenance information and the information that premise the service based the component parts.

Related manuals

The following manual is prepared for HKPF-103M.

- **Operation Manual (Supplied with HKPF-103M)**
  Part No. 3-203-157-01
  This manual describes the notes on the operating, and the locations and functions of parts and controls of HKPF-103M.

- **Installation Manual (Supplied with HKPF-103M)**
  Part No. 3-203-437-01
  This manual describes the supplied accessories, the board attachment, and the name and functions of connectors, switches and LEDs.

- **“Semiconductor Pin Assignments” CD-ROM (Available on request)**
  This “Semiconductor Pin Assignments” CD-ROM allows you to search for semiconductors used in B&P Company equipment.
  Semiconductors that cannot be searched for on this CD-ROM are listed in the maintenance manual for the corresponding unit. The maintenance manual contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.
  Part number: 9-968-546-XX

Contents

This manual is organized by the following sections.

Section 1 Service Overview
This section describes the replacement of IC link, the tools, the rewriting the CPU program, the notes during replacement of board and parts on board, and the setting of status output.

Section 2 Self-diagnosis
This section describes the self-diagnosis.

Section 3 Spare Parts
This section describes the spare parts.

Section 4 Semiconductor Pin Assignments
This section describes the pin assignments of semiconductor.

Section 5 Block Diagrams

This section describes the circuit description and the overall block diagram.

Section 6 Schematic Diagrams

This section describes the schematic diagrams for mounted circuit boards.

Section 7 Board Layouts

This section describes the board layouts for mounted circuit boards.

Section 1
Service Overview

1-1. Replacement of IC Link

HKPF-103M mounts the two IC links. When abnormality occurs in equipment and when an overcurrent flows, the IC link is fused. Use the component specified below as the IC link to be replaced.
Before replacing the IC link, eliminate a foreign substance that causes a short-circuit.

DPR-151C board : PS900(M-2) and PS901(M-2)
Part name : IC LINK 2.7A
Part No. : ⚠1-532-686-21

Note

The alphanumeric character in parentheses indicates the address on the board.

WARNING

The IC link is critical to safe operation. Do not replace the fuse with one other than specified. This may cause a fire and electric shock. Be sure to use the specified IC link.

1-2. Tools

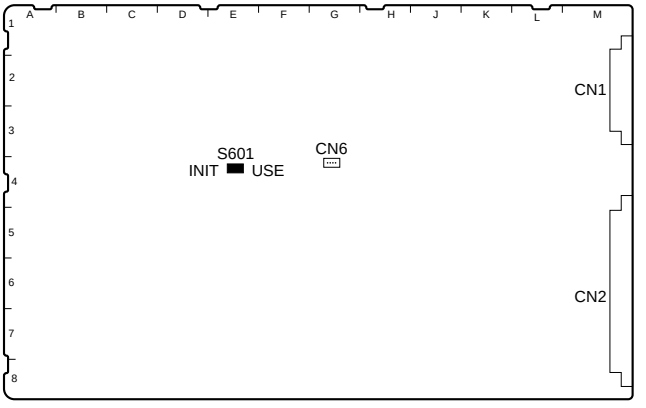
Name	Part No.	Use
Extension board, Ex-331	J-6185-960-A	Use for extension of the DPR-151C board.
RS232C Interface cable	J-6510-120-A	Use for rewriting the CPU program.
Interface cable (4P)	J-6510-410-A	Use for rewriting the CPU program.

1-3. Rewriting the CPU Program

IC604 on the DPR-151C board is a CPU with ROM, and the program can be rewritten without removing it from the DPR-151C board.
ROM version can be identified its suffix name, and it will be rewritten by updating the program.

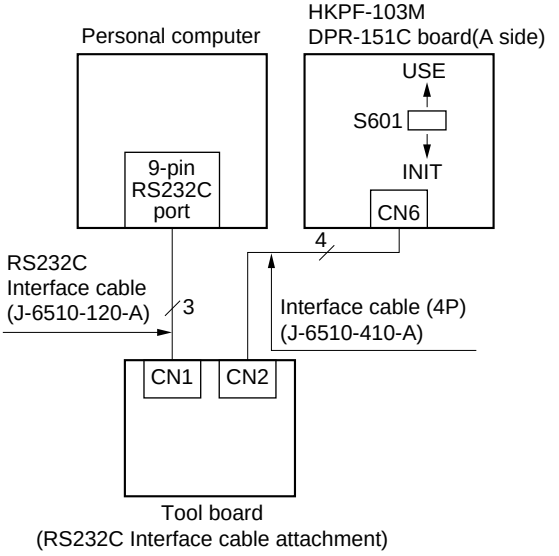
Notes on Rewriting the Program

Since stored set value information from the remote controller are cleared by rewriting the program, be sure to set all data again with remote controller.



DPR-151C board (A side)

Connection



Equipment Required

- Personal computer (PC)
  IBM PC/AT compatible*1
  Operating system: Windows95 or Windows98*2
  Port: 9-pin RS-232C connector
- F-ZTAT microcomputer on-board writing software
  Hitachi Semiconductor, Inc. : HS6400FWIW3SF
- RS-232C interface cable with tool board
  For IBM PC compatible PCs*1 : J-6510-120-A
- Interface cable (4P) : J-6510-410-A
- Program data file to be updated

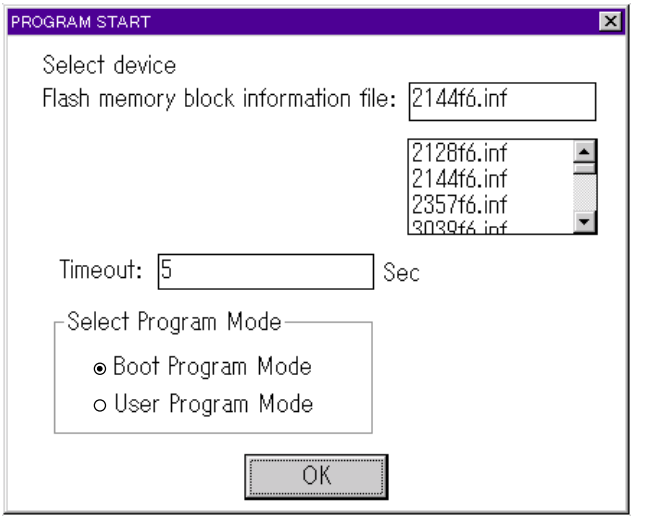
∗1 "IBM/PC" is the registered trademark of IBM in the United States of America and other countries.
∗2 "Windows95" and "Windows98" are the registered trademark of Microsoft Corporation in the United States of America and other countries.

Procedures

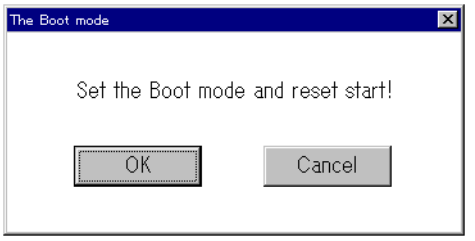
Note

The alphanumeric character in parentheses indicates the address on the board.

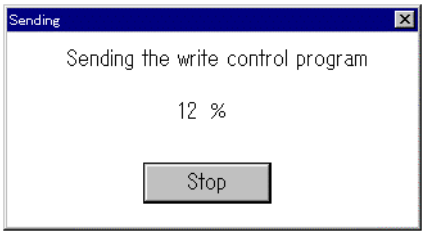
1. Set S601 (E-4) of HKPF-103M to "INIT" side.
2. Connect 4-pin interface cable onto CN2 of the tool board.
3. Connect 4-pin interface cable onto CN6 (G-4) of HKPF-103M.
4. Connect the tool board to RS-232C port of PC, then boot the Writing Software.
   The PROGRAM START dialog box will be appeared on the screen.
5. Set each box in the PROGRAM START dialog box as follows, then click "OK" button.
   - Flash memory block information file: 2144f6.inf
   - Timeout: 5 [seconds]
   - Select Program Mode: Boot Program Mode



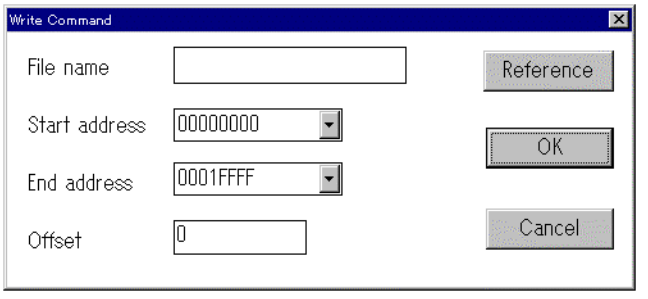
6. During appearing “The Boot mode” dialog box, turn ON the power of HKPF-103M.



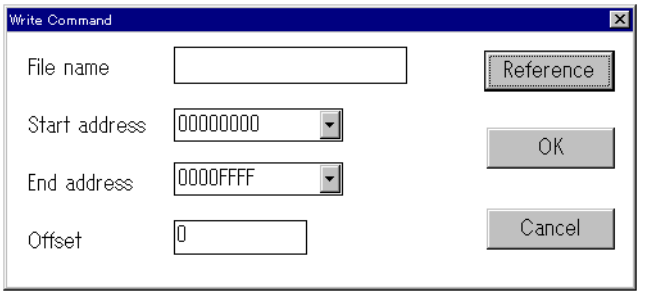
7. Click “OK” button in “The Boot mode” dialog box. Since “Sending” dialog box will be appeared, wait until it becomes “100 %.” When it reaches “100 %,” dialog box will be automatically disappeared.



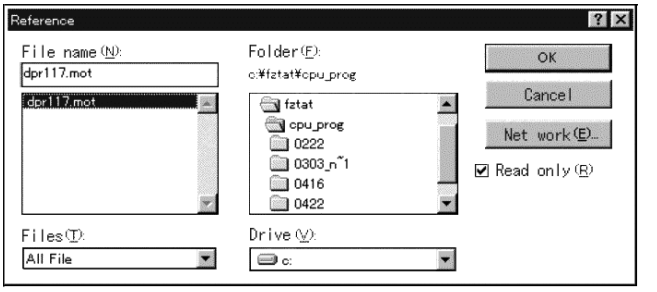
8. Click “WRITE” on the menu bar to display “Write Command” dialog box.



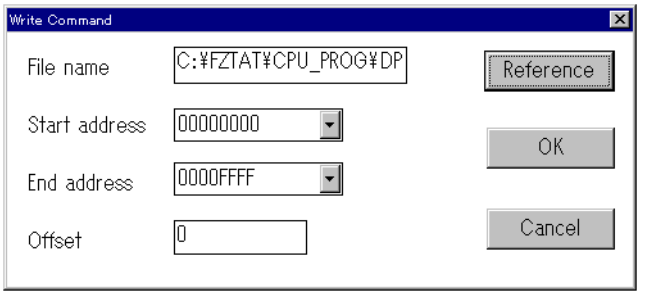
9. Input “0” in “Offset” box.
10. Select “00000000” in “Start address” box.
11. Select “0000FFFF” in “End address” box.



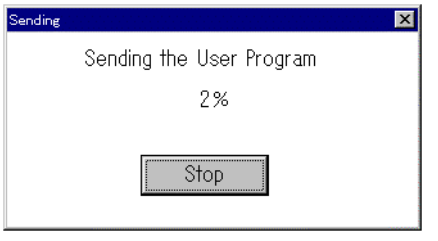
12. Click “Reference” button to designate the file to be written.
    When the “Reference” dialog box appears, select the program data file, then click “OK” button.
    Ex: Target data is stored in “c:\fztat\cpu_prog” directory.



13. Make sure that the designated file is in the list box, then click “OK” button.



14. Wait until the end of transmission.
    The “Sending” dialog box appears during transmitting the program data. It disappears when the transmission has been completed.



15. Select “QUIT” from the File menu to quit the software.
16. Turn OFF the power of HKPF-103M.
17. Remove the tool cables, and be sure to set S601 (E-4) to “USE” position.

1-4. Notes during Replacement of Board and Parts on Board

The DPR-151C and DIF-103 boards mount a high-frequency circuit (1.5 GHz). It is impossible to be replaced any electric parts in the high-frequency circuit block.
When the high-frequency circuit parts on the DPR-151C are defective, buy HKPF-103M's unit.
When the high-frequency circuit parts on the DIF-103 board are defective, replace the whole DIF-103 board.

Note

The output of the DIGITAL OUT on the DIF-103 board is carried out an output level adjustment at the factory. Do not turn adjustment volumes from RV1 to RV3.

1-5. Setting of Status Output

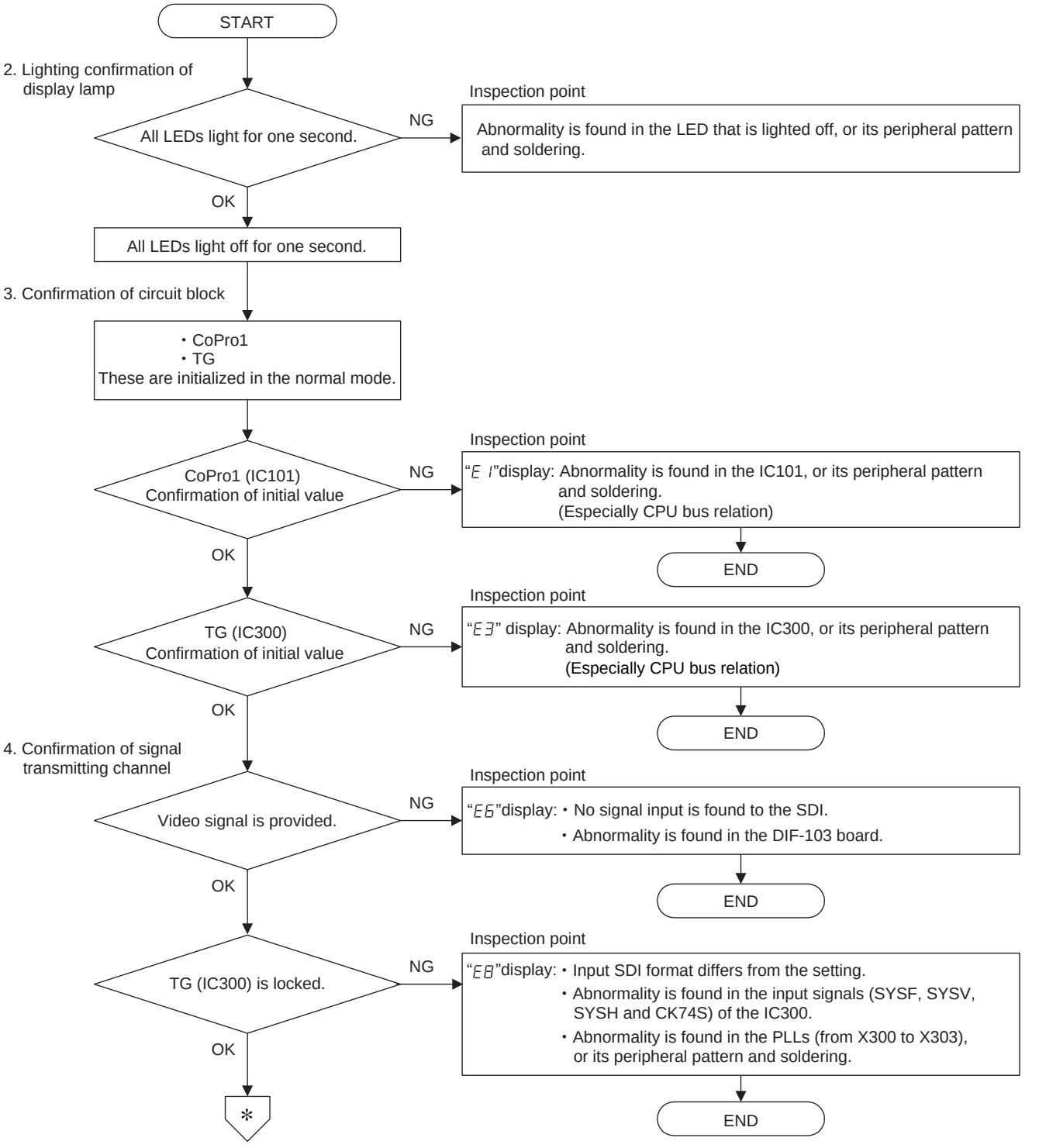
HKPF-103M has the status output function to monitor the operating state of each board according as it's installed in PFV-HD50/HD300.
The report contents are selected by the S706-1 and S706-2 switches on the DPR-151C board, so that the alarm signal is provided by a 1-bit signal.
Regarding setting method, refer to Section 4-2 in the installation manual of HKPF-103M.

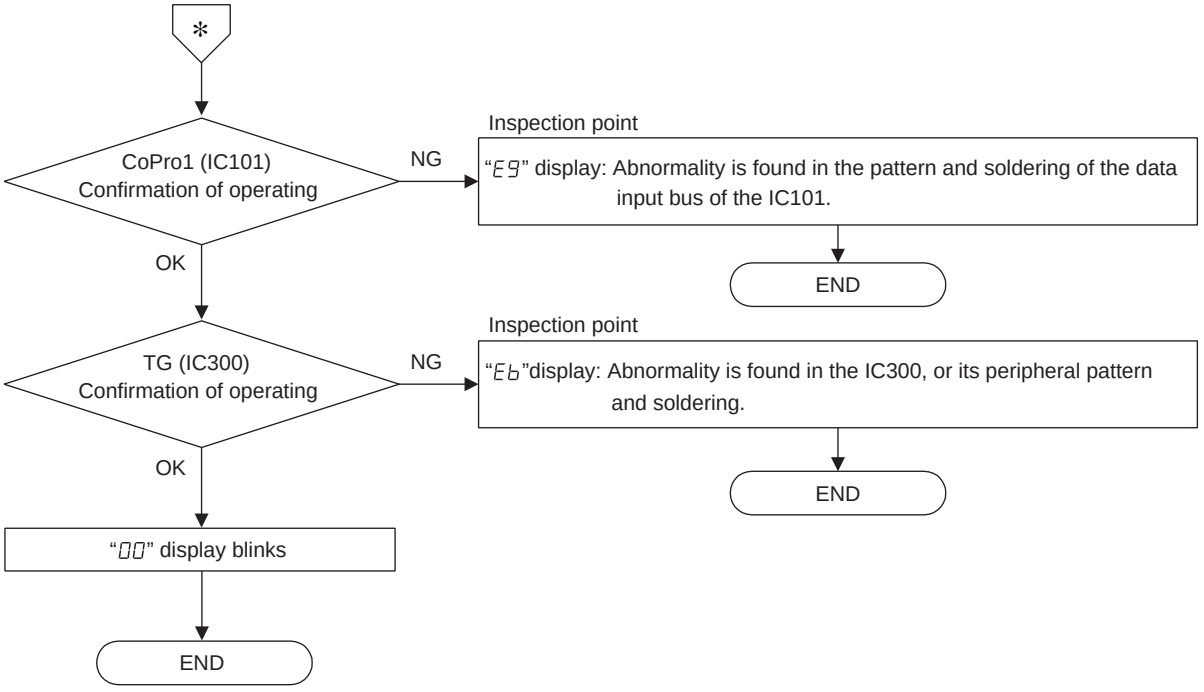
Section 2
Self-diagnosis

HKPF-103M is carried out the self-diagnosis of a defective circuit block in the test mode.

1. Starting of test mode

Select DIP switch S703-2 to the upper (ON) position and turn ON the power switch of PFV-HD50A/HD300.
(Or select DIP switch S703-2 to the upper (ON) position and press CPU reset switch S600.)


START
2. Lighting confirmation of display lamp
All LEDs light for one second.
NG
Inspection point
Abnormality is found in the LED that is lighted off, or its peripheral pattern and soldering.
OK
All LEDs light off for one second.
3. Confirmation of circuit block
• CoPro1
• TG
These are initialized in the normal mode.
CoPro1 (IC101) Confirmation of initial value
NG
Inspection point
"E 1"display: Abnormality is found in the IC101, or its peripheral pattern and soldering.
(Especially CPU bus relation)
END
OK
TG (IC300) Confirmation of initial value
NG
Inspection point
"E3" display: Abnormality is found in the IC300, or its peripheral pattern and soldering.
(Especially CPU bus relation)
END
OK
4. Confirmation of signal transmitting channel
Video signal is provided.
NG
Inspection point
"E6"display: • No signal input is found to the SDI.
• Abnormality is found in the DIF-103 board.
END
OK
TG (IC300) is locked.
NG
Inspection point
"E8"display: • Input SDI format differs from the setting.
• Abnormality is found in the input signals (SYSF, SYSV, SYSH and CK74S) of the IC300.
• Abnormality is found in the PLLs (from X300 to X303), or its peripheral pattern and soldering.
END
OK
*


*
CoPro1 (IC101)
Confirmation of operating
NG
Inspection point
"E9" display: Abnormality is found in the pattern and soldering of the data input bus of the IC101.
END
OK
TG (IC300)
Confirmation of operating
NG
Inspection point
"Eb"display: Abnormality is found in the IC300, or its peripheral pattern and soldering.
END
OK
"00" display blinks
END

Section 3
Spare Parts

3-1. Notes on Spare Parts

1. Safety Related Components Warning

WARNING

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.
Parts list has the present standardized repair parts.

3. Stock of Parts

Parts marked with “o” at SP (Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

4. Harness

Harnesses with no part number are not registered as spare parts.
In need of repair, get components shown in the list and repair using them.

3-1. 補修部品注意事項

1. 安全重要部品

⚠警告

⚠印のついた部品は安全性を維持するために重要な部品です。したがって，交換する時は必ず指定の部品を使ってください。

2. 部品の共通化

ソニーから供給する補修用部品は，セットに使われているものと異なることがあります。
これは部品の共通化，改良等によるものです。
部品表には現時点での共通化された補修用部品が記載されています。

3. 部品の在庫

部品表のSP (Supply code) 欄に“o”で示される部品は在庫していないことがあり，納期が長くなることがあります。

4. ハーネス

部品番号が記載されていないハーネスは，サービス部品として登録されていません。
これらは，リストに展開されているコンポーネント部品で補修してください。

3-2. Electrical Parts List

DIF-103 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8323-639-A	o	MOUNTED CIRCUIT BOARD, DIF-103
1pc	3-608-261-01	o	COVER,SHIELD CASE(1)
1pc	3-623-794-01	o	PANEL,CONNECTOR
1pc	3-657-842-01	s	COLLAR (DIA 3X4)
1pc	7-682-947-01	s	SCREW +PSW 3 ×6(EP-FE/ZN/CM2)
1pc	7-685-549-14	s	SCREW,BTP 3 ×14(EP-FE/CU,NI.CR)

DPR-151C BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	2-182-909-01	o	LEVER,PC BOARD
1pc	3-192-294-01	o	SHEET (SDI),RADIATION
1pc	3-192-294-11	o	SHEET (SDI),RADIATION
1pc	3-623-791-03	o	PANEL,FRONT(103M)
1pc	7-626-320-11	s	SPRING PIN,3 ×8 (STEEL)
1pc	7-682-902-11	s	SCREW +PWH 2.6 ×5(EP-FE/ZN/CM2)
1pc	7-682-947-01	s	SCREW +PSW 3 × 6(EP-FE/ZN/CM2)
1pc	9-911-840-99	s	CHEET,RUBBER (RBR)
C100	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C101	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C102	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C103	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C104	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C106	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C107	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C108	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C109	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C110	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C111	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C112	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C113	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C114	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C115	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C116	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C117	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C118	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C119	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C120	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C121	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C122	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C123	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C124	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C125	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C126	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C127	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C128	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C129	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C130	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C131	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C132	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C133	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C134	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C136	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C137	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C138	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C139	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C140	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C141	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C142	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C143	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C144	1-113-578-11	s	CAPACITOR,ELECT 68MF/10V
C210	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C212	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C216	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C217	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C218	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C219	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C220	1-126-390-11	s	CAPACITOR,ELECT 22MF/6.3V(105)

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(DPR-151C BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C221	1-126-390-11	s	CAPACITOR,ELECT 22MF/6.3V(105)
C222	1-126-390-11	s	CAPACITOR,ELECT 22MF/6.3V(105)
C223	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C224	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C225	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C226	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C227	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C228	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C229	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C230	1-126-395-11	s	CAPACITOR,ELECT 22MF/16V(CHIP)
C231	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C232	1-126-391-11	s	CAPACITOR,ELECT 47MF/6.3V(105)
C233	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C234	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C235	1-126-391-11	s	CAPACITOR,ELECT 47MF/6.3V(105)
C236	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C237	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C238	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C239	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C240	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C241	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C242	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C243	1-126-395-11	s	CAPACITOR,ELECT 22MF/16V(CHIP)
C244	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C245	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C246	1-109-994-11	s	CAPACITOR,CHIP CERAMIC 2.2MF B
C247	1-126-391-11	s	CAPACITOR,ELECT 47MF/6.3V(105)
C248	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C249	1-126-391-11	s	CAPACITOR,ELECT 47MF/6.3V(105)
C250	1-126-395-11	s	CAPACITOR,ELECT 22MF/16V(CHIP)
C251	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C252	1-126-391-11	s	CAPACITOR,ELECT 47MF/6.3V(105)
C253	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C254	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C255	1-125-838-11	s	CAPACITOR,CERAMIC 2.2MF/6.3V
C256	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C257	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C258	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C259	1-163-021-91	s	CAPACITOR,CERAMIC 0.01MF/50V
C260	1-162-970-11	s	CAPACITOR,CERAMIC 0.01MF/25V B
C261	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C262	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C263	1-107-826-11	s	CAPACITOR,CHIP CERAMIC 0.1MF
C264	1-163-021-91	s	CAPACITOR,CERAMIC 0.01MF/50V
C265	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C266	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C267	1-163-021-91	s	CAPACITOR,CERAMIC 0.01MF/50V
C268	1-163-275-11	s	CAPACITOR,CERAMIC 1000PF/50V
C269	1-115-416-11	s	CAPACITOR,CERAMIC 1000PF/25V
C270	1-126-395-11	s	CAPACITOR,ELECT 22MF/16V(CHIP)
C271	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C272	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C273	1-126-395-11	s	CAPACITOR,ELECT 22MF/16V(CHIP)
C274	1-162-964-11	s	CAPACITOR,CERAMIC 1000PF/50V B
C300	1-127-516-11	s	CAPACITOR,ELECT (SOLID)220MF
C303	1-127-516-11	s	CAPACITOR,ELECT (SOLID)220MF
C305	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C306	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C307	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V

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C308	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C309	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C310	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C311	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C312	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C313	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C314	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C315	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C316	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C317	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C318	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C319	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C320	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C321	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C322	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C323	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C324	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C325	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C326	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C327	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C328	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C329	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C330	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C331	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C332	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C333	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C334	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C335	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C336	1-127-950-11	s	CAPACITOR,CHIP FILM 0.01MF
C339	1-127-956-11	s	CAPACITOR,CHIP FILM 0.1MF
C344	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C345	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C350	1-126-395-11	s	CAPACITOR,ELECT 22MF/16V(CHIP)
C353	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C354	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C355	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C357	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C358	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C359	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C360	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C361	1-113-578-11	s	CAPACITOR,ELECT 68MF/10V
C362	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C600	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C601	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C602	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C603	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C604	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C605	1-163-235-11	s	CAPACITOR,CHIP CERAMIC22PF/50V
C606	1-163-235-11	s	CAPACITOR,CHIP CERAMIC22PF/50V
C607	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C608	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C609	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C610	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C612	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C613	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C614	1-107-823-11	s	CAPACITOR,CERAMIC 0.47MF/16V
C700	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C701	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C702	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V

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C703	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C704	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C705	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C706	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C707	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C708	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C710	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C711	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C712	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C713	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C714	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C715	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C717	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C718	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C719	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C720	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C721	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C722	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C723	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C724	1-113-578-11	s	CAPACITOR,ELECT 68MF/10V
C900	1-128-416-11	s	CAPACITOR,ELECT 100MF/16V(105C)
C901	1-128-416-11	s	CAPACITOR,ELECT 100MF/16V(105C)
C902	1-128-416-11	s	CAPACITOR,ELECT 100MF/16V(105C)
C903	1-128-416-11	s	CAPACITOR,ELECT 100MF/16V(105C)
C904	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C905	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C906	1-126-398-11	s	CAPACITOR,ELECT 4.7MF/35V(CHIP)
C907	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C908	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C909	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C910	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C911	1-163-009-11	s	CAPACITOR,CERAMIC 1000PF/50V
C912	1-128-416-11	s	CAPACITOR,ELECT 100MF/16V(105C)
C914	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C915	1-126-398-11	s	CAPACITOR,ELECT 4.7MF/35V(CHIP)
C917	1-126-398-11	s	CAPACITOR,ELECT 4.7MF/35V(CHIP)
C918	1-126-398-11	s	CAPACITOR,ELECT 4.7MF/35V(CHIP)
C919	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C920	1-126-394-11	s	CAPACITOR,ELECT 10MF/16V(CHIP)
C921	1-163-257-11	s	CAPACITOR,CERAMIC 180PF/50V
C922	1-163-257-11	s	CAPACITOR,CERAMIC 180PF/50V
C924	1-115-340-11	s	CAPACITOR,CERAMIC 0.22MF/25V B
C927	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C928	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C929	1-163-021-91	s	CAPACITOR,CERAMIC 0.01MF/50V
C930	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C931	1-163-251-11	s	CAPACITOR,CERAMIC 100PF/50V
C933	1-163-251-11	s	CAPACITOR,CERAMIC 100PF/50V
C934	1-163-251-11	s	CAPACITOR,CERAMIC 100PF/50V
C935	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C937	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C938	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C939	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C941	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C942	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C943	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C944	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C947	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C948	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF

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C949	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C950	1-163-037-11	s	CAPACITOR,CHIP CERAMIC 0.022MF
C951	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C953	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C954	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C955	1-127-517-11	s	CAPACITOR,ELECT 150MF/16V
C957	1-127-517-11	s	CAPACITOR,ELECT 150MF/16V
C958	1-127-517-11	s	CAPACITOR,ELECT 150MF/16V
C959	1-127-516-11	s	CAPACITOR,ELECT (SOLID)220MF
C961	1-113-578-11	s	CAPACITOR,ELECT 68MF/10V
C962	1-107-876-11	s	CAPACITOR,ELECT 330MF/10V(105)
C963	1-127-516-11	s	CAPACITOR,ELECT (SOLID)220MF
C965	1-127-516-11	s	CAPACITOR,ELECT (SOLID)220MF
C966	1-127-516-11	s	CAPACITOR,ELECT (SOLID)220MF
C967	1-127-516-11	s	CAPACITOR,ELECT (SOLID)220MF
C969	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C970	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C971	1-115-708-11	s	CAPACITOR,ELECT 470MF/6.3V
C972	1-164-004-11	s	CAPACITOR,CERAMIC 0.1MF/25V
C973	1-115-708-11	s	CAPACITOR,ELECT 470MF/6.3V
C974	1-107-876-11	s	CAPACITOR,ELECT 330MF/10V(105)
CN1	1-569-465-11	o	PIN,DIN CONNECTOR (DIP) 48P
CN2	1-568-144-11	o	PIN,DIN CONNECTOR (DIP) 96P
CN4	1-506-473-11	o	PIN,CONNECTOR 8P
CN6	1-506-469-11	s	PIN,CONNECTOR 4P
CN7	1-506-471-11	o	PIN,CONNECTOR 6P
D200	8-719-157-23	s	DIODE RD4.7M-B
D201	8-719-941-23	s	DIODE DA204U
D700	8-719-974-41	s	LED HLMP-6500-010
D706	8-719-974-39	s	LED HLMP-6300-010
D900	8-719-974-41	s	LED HLMP-6500-010
D901	8-719-023-53	s	DIODE EA30QS04-F
D902	8-719-023-53	s	DIODE EA30QS04-F
D903	8-719-975-43	s	DIODE RB420D
D905	8-719-975-43	s	DIODE RB420D
D906	8-719-975-43	s	DIODE RB420D
D907	8-719-975-43	s	DIODE RB420D
D909	8-719-975-43	s	DIODE RB420D
D910	8-719-975-43	s	DIODE RB420D
FB300	1-412-363-21	s	FERRITE. EMI (SMD)
FB301	1-412-363-21	s	FERRITE. EMI (SMD)
FB302	1-412-363-21	s	FERRITE. EMI (SMD)
FB303	1-412-363-21	s	FERRITE. EMI (SMD)
FB304	1-412-363-21	s	FERRITE. EMI (SMD)
IC105	8-759-386-26	s	IC 74LCX574MTCX
IC106	8-759-386-26	s	IC 74LCX574MTCX
IC107	8-759-386-26	s	IC 74LCX574MTCX
IC108	8-759-547-74	s	IC SN74LVTH245APW-E05
IC109	8-759-367-25	s	IC MC10EL16DR2
IC110	8-759-367-25	s	IC MC10EL16DR2
IC201	8-759-012-02	s	IC MC10H124M
IC203	8-759-260-55	s	IC TLC272CPW (E05)
IC204	8-759-367-24	s	IC MC10EL11DR2
IC205	8-759-367-25	s	IC MC10EL16DR2
IC206	8-759-260-55	s	IC TLC272CPW (E05)
IC301	8-759-572-86	s	IC LT1085CM-TR
IC304	8-759-485-82	s	IC MC34182DR2
IC305	8-759-491-45	s	IC TC74VHCT00AFT(EL)

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IC309	8-759-929-26	s	IC TL431CPS
IC310	8-759-011-65	s	IC MC74HC4053F
IC311	8-759-389-33	s	IC 74LCX244MTCX
IC600	8-759-989-91	s	IC TL7705ACPS
IC602	8-759-031-84	s	IC SC7S04F
IC603	8-759-524-04	s	IC TC74VHC125FT (EL)
IC604	8-759-637-56	s	IC HD64F2132FA20
IC605	8-759-031-84	s	IC SC7S04F
IC606	8-759-234-20	s	IC TC7S08F
IC608	8-759-491-51	s	IC TC74VHCT245AFT(EL)
IC611	8-759-549-21	s	IC SN74LV573APWR
IC612	8-759-549-21	s	IC SN74LV573APWR
IC701	8-759-637-52	s	IC XC95144-10TQ100C
IC702	8-759-927-18	s	IC SN74HCT541NS
IC703	8-759-456-26	s	IC 74LCX541MTCX
IC704	8-759-516-94	s	IC SN74ALS573CNS
IC705	8-759-516-94	s	IC SN74ALS573CNS
IC707	8-759-490-41	s	IC TC74VHCT541AFT(EL)
IC708	8-759-490-41	s	IC TC74VHCT541AFT(EL)
IC710	8-759-524-07	s	IC TC74VHC138FT(EL)
IC711	8-759-523-78	s	IC TC74VHC00FT(EL)
IC712	8-759-272-66	s	IC 74VHC74SJ (X)
IC713	8-759-490-41	s	IC TC74VHCT541AFT(EL)
IC714	8-759-490-41	s	IC TC74VHCT541AFT(EL)
IC900	8-759-371-78	s	IC LT1431CS8-E1
IC901	8-759-261-48	s	IC TL1451ACPW (R)
IC902	8-759-261-48	s	IC TL1451ACPW (R)
L100	1-424-643-11	s	COIL,CHOKE 10UH
L301	1-410-381-11	s	INDUCTOR,CHIP 10UH (3225)
L701	1-424-643-11	s	COIL,CHOKE 10UH
L900	1-421-459-21	s	COIL,CHOKE
L901	1-421-459-21	s	COIL,CHOKE
L902	1-421-459-21	s	COIL,CHOKE
L903	1-421-459-21	s	COIL,CHOKE
L904	1-403-684-11	s	COIL,CHOKE 56UH
L906	1-409-721-11	s	COIL,CHOKE 42UH
L907	1-411-323-11	s	COIL,CHOKE (74UH)
L908	1-421-459-21	s	COIL,CHOKE
L910	1-421-459-21	s	COIL,CHOKE
L911	1-421-459-21	s	COIL,CHOKE
OSC200	1-767-119-11	s	OSCILLATOR (VOLTAGE VAR TYPE)
PS900	⚠1-532-686-21	s	CIRCUIT PROTECTOR (2.7A)
PS901	⚠1-532-686-21	s	CIRCUIT PROTECTOR (2.7A)
Q700	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q701	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q900	8-729-117-32	s	TRANSISTOR 2SC4177
Q901	8-729-028-91	s	TRANSISTOR DTA144EUA-T106
Q902	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q904	8-729-117-32	s	TRANSISTOR 2SC4177
Q905	8-729-117-32	s	TRANSISTOR 2SC4177
Q906	8-729-117-32	s	TRANSISTOR 2SC4177
Q908	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q909	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q910	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q911	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q912	8-729-117-32	s	TRANSISTOR 2SC4177
Q915	8-729-117-32	s	TRANSISTOR 2SC4177

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Ref. No. or Q'ty	Part No.	SP	Description
Q916	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q917	8-729-117-32	s	TRANSISTOR 2SC4177
Q918	8-729-140-63	s	TRANSISTOR 2SA1611-M5M6
Q919	8-729-046-99	s	TRANSISTOR SI4562DY
Q921	8-729-046-99	s	TRANSISTOR SI4562DY
Q922	8-729-046-99	s	TRANSISTOR SI4562DY
R100	1-218-682-11	s	RESISTOR,CHIP 390 1/16W (1608)
R101	1-218-682-11	s	RESISTOR,CHIP 390 1/16W (1608)
R102	1-218-682-11	s	RESISTOR,CHIP 390 1/16W (1608)
R103	1-218-682-11	s	RESISTOR,CHIP 390 1/16W (1608)
R104	1-218-768-11	s	RESISTOR,CHIP 470K 1/10W(2012)
R105	1-218-670-11	s	RESISTOR,CHIP 120 1/16W (1608)
R106	1-218-670-11	s	RESISTOR,CHIP 120 1/16W (1608)
R107	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R108	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R111	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R112	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R113	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R114	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R115	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R116	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R117	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R118	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R119	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R120	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R121	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R122	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R123	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R124	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R125	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R126	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R127	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R128	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R129	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R130	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R131	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R132	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R133	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R134	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R135	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R136	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R137	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R138	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R139	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R140	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R141	1-218-668-11	s	RESISTOR,CHIP 100 1/16W (1608)
R142	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R143	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R144	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R145	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R146	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R147	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R148	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R149	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R150	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R151	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R152	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R153	1-218-644-11	s	RESISTOR,CHIP 10 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R154	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R155	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R156	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R157	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R158	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R159	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R160	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R161	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R162	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R163	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R164	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R165	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R166	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R167	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R168	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R169	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R170	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R171	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R172	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R173	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R182	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R183	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R184	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R185	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R186	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R187	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R188	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R189	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R190	1-216-603-11	s	RESISTOR,CHIP 10 1/10W(2012)
R191	1-216-603-11	s	RESISTOR,CHIP 10 1/10W(2012)
R192	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R193	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R194	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R195	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R196	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R197	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R198	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R199	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R200	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R201	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R202	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R203	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R204	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R205	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R206	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R207	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R208	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R209	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R210	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R211	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R212	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R213	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R214	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R215	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R216	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R217	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R218	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R219	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R220	1-218-644-11	s	RESISTOR,CHIP 10 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R221	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R222	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R223	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R224	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R225	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R226	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R227	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R228	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R229	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R230	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R231	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R232	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R233	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R234	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R235	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R236	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R237	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R238	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R239	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R240	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R241	1-218-644-11	s	RESISTOR,CHIP 10 1/16W
R246	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R250	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R251	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R252	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R253	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R254	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R255	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R256	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R257	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R258	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R259	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R260	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R261	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R262	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R263	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R264	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R265	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R266	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R267	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R268	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R269	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R295	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R296	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R297	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R299	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R300	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R302	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R303	1-216-661-11	s	RESISTOR,CHIP 2.7K 1/10W(2012)
R304	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R305	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R306	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R307	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R308	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R309	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R310	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R312	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R313	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R314	1-216-611-11	s	RESISTOR,CHIP 22 1/10W (2012)

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Ref. No. or Q'ty	Part No.	SP	Description
R315	1-218-676-11	s	RESISTOR,CHIP 220 1/16W(1608)
R316	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R317	1-218-667-11	s	RESISTOR,CHIP 91 1/16W (1608)
R318	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R319	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R320	1-218-740-11	s	RESISTOR,CHIP 100K 1/16W(1608)
R321	1-218-692-11	s	RESISTOR,CHIP 1.0K 1/16W(1608)
R322	1-218-692-11	s	RESISTOR,CHIP 1.0K 1/16W(1608)
R323	1-218-740-11	s	RESISTOR,CHIP 100K 1/16W(1608)
R324	1-218-692-11	s	RESISTOR,CHIP 1.0K 1/16W(1608)
R325	1-218-692-11	s	RESISTOR,CHIP 1.0K 1/16W(1608)
R326	1-218-692-11	s	RESISTOR,CHIP 1.0K 1/16W(1608)
R327	1-218-679-91	s	RESISTOR,CHIP 300 1/16W
R328	1-218-709-11	s	RESISTOR,CHIP 5.1K 1/16W
R329	1-218-709-11	s	RESISTOR,CHIP 5.1K 1/16W
R330	1-218-692-11	s	RESISTOR,CHIP 1.0K 1/16W(1608)
R331	1-216-638-11	s	RESISTOR,CHIP 300 1/10W (2012)
R332	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R333	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R334	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R335	1-218-661-11	s	RESISTOR,CHIP 51 1/16W (1608)
R336	1-218-652-11	s	RESISTOR,CHIP 22 1/16W (1608)
R337	1-218-652-11	s	RESISTOR,CHIP 22 1/16W (1608)
R338	1-218-652-11	s	RESISTOR,CHIP 22 1/16W (1608)
R339	1-218-652-11	s	RESISTOR,CHIP 22 1/16W (1608)
R340	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R341	1-218-668-11	s	RESISTOR,CHIP 100 1/16W (1608)
R342	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R343	1-218-652-11	s	RESISTOR,CHIP 22 1/16W (1608)
R344	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R345	1-218-764-11	s	RESISTOR,CHIP 330K 1/10W(2012)
R346	1-216-864-11	s	RESISTOR,CHIP 0 1/16W (1608)
R347	1-218-704-11	s	RESISTOR,CHIP 3.3K 1/16W(1608)
R348	1-216-864-11	s	RESISTOR,CHIP 0 1/16W (1608)
R349	1-218-704-11	s	RESISTOR,CHIP 3.3K 1/16W(1608)
R350	1-218-752-11	s	RESISTOR,CHIP 330K 1/16W(1608)
R370	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R371	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R372	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R373	1-216-652-11	s	RESISTOR,CHIP 1.1K 1/10W(2012)
R374	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
R375	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
R376	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
R379	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R380	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R381	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R382	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R383	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R384	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R385	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R386	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R387	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R388	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R389	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
R390	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
R391	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
R392	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R393	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R394	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)

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Ref. No. or Q'ty	Part No.	SP	Description
R395	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
R396	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R397	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R398	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R399	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R400	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R401	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R402	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R403	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R404	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R405	1-216-661-11	s	RESISTOR,CHIP 2.7K 1/10W(2012)
R408	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R409	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R432	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R433	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R434	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R435	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R436	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R438	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R454	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R455	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R456	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R457	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R458	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R459	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R460	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R467	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R470	1-218-760-11	s	RESISTOR,CHIP 220K 1/10W(2012)
R473	1-216-683-11	s	RESISTOR,CHIP 22K 1/10W (2012)
R476	1-216-677-11	s	RESISTOR,CHIP 12K 1/10W(2012)
R479	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R480	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R481	1-216-663-11	s	RESISTOR,CHIP 3.3K 1/10W(2012)
R482	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R483	1-216-648-11	s	RESISTOR,CHIP 750 1/10W (2012)
R484	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R485	1-216-648-11	s	RESISTOR,CHIP 750 1/10W (2012)
R489	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R490	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R491	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R492	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R493	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R494	1-216-633-11	s	RESISTOR,CHIP 180 1/10W (2012)
R495	1-216-633-11	s	RESISTOR,CHIP 180 1/10W (2012)
R600	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R601	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R602	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R603	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R604	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R605	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R606	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R607	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R608	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R609	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R610	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R611	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R612	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R616	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R617	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)

(DPR-151C BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R618	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R619	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R621	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R622	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R623	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R624	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R625	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R626	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R627	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R628	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R629	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R630	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R631	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R632	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R633	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R635	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R636	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R637	1-218-766-11	s	RESISTOR,CHIP 390K1/10W(2012)
R700	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R701	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R702	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R703	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R704	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R705	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R706	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R707	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R708	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R709	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R710	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R711	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R712	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R713	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R714	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R715	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R716	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R717	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R718	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R719	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R720	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R721	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R722	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R723	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R724	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R725	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R726	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R727	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R728	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R733	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R734	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R735	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R736	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R737	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R738	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R739	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R740	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R741	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R742	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R743	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R745	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)

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Ref. No. or Q'ty	Part No.	SP	Description
R746	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R747	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R748	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R749	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R900	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R901	1-216-680-11	s	RESISTOR,CHIP 16K 1/10W (2012)
R902	1-216-679-11	s	RESISTOR,CHIP 15K 1/10W (2012)
R903	1-216-660-11	s	RESISTOR,CHIP 2.4K 1/10W(2012)
R905	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R907	1-216-654-11	s	RESISTOR,CHIP 1.3K1/10W (2012
R908	1-216-654-11	s	RESISTOR,CHIP 1.3K1/10W (2012
R909	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R910	1-216-654-11	s	RESISTOR,CHIP 1.3K1/10W (2012
R911	1-216-693-11	s	RESISTOR,CHIP 56K 1/10W (2012)
R912	1-216-677-11	s	RESISTOR,CHIP 12K 1/10W(2012)
R913	1-216-620-11	s	RESISTOR,CHIP 51 1/10W (2012)
R914	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R915	1-216-682-11	s	RESISTOR,CHIP 20K 1/10W (2012)
R916	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R919	1-216-687-11	s	RESISTOR,CHIP 33K 1/10W (2012)
R920	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R921	1-216-683-11	s	RESISTOR,CHIP 22K 1/10W (2012)
R922	1-216-691-11	s	RESISTOR,CHIP 47K 1/10W(2012)
R923	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R925	1-216-676-11	s	RESISTOR,CHIP 11K 1/10W(2012)
R926	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R927	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R929	1-216-674-11	s	RESISTOR,CHIP 9.1K 1/10W(2012)
R930	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R931	1-216-643-11	s	RESISTOR,CHIP 470 1/10W (2012)
R933	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R934	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R935	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R937	1-216-671-11	s	RESISTOR,CHIP 6.8K 1/10W(2012)
R939	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R940	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R942	1-216-678-11	s	RESISTOR,CHIP 13K 1/10W(2012)
R943	1-216-699-11	s	RESISTOR,CHIP 100K 1/10W(2012)
R946	1-216-649-11	s	RESISTOR,CHIP 820 1/10W (2012)
R947	1-216-666-11	s	RESISTOR,CHIP 4.3K 1/10W(2012)
R948	1-216-692-11	s	RESISTOR,CHIP 51K 1/10W (2012)
R949	1-216-693-11	s	RESISTOR,CHIP 56K 1/10W (2012)
R950	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R952	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R953	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R954	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R956	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R957	1-216-635-11	s	RESISTOR,CHIP 220 1/10W (2012)
R958	1-216-341-11	s	RESISTOR,METAL FILM 0.22/1W
R959	1-216-341-11	s	RESISTOR,METAL FILM 0.22/1W
R961	1-216-347-11	s	RESISTOR,METAL FILM 0.68/1W
R962	1-216-347-11	s	RESISTOR,METAL FILM 0.68/1W
R963	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R965	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R966	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R967	1-216-653-11	s	RESISTOR,CHIP 1.2K 1/10W(2012)
R968	1-216-684-91	s	RESISTOR METAL FILM CHIP 24K
R971	1-216-653-11	s	RESISTOR,CHIP 1.2K 1/10W(2012)
R972	1-216-684-91	s	RESISTOR METAL FILM CHIP 24K

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Ref. No. or Q'ty	Part No.	SP	Description
R973	1-216-653-11	s	RESISTOR,CHIP 1.2K 1/10W(2012)
R974	1-216-684-91	s	RESISTOR METAL FILM CHIP 24K
R975	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R976	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R977	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R978	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R979	1-216-651-11	s	RESISTOR,CHIP 1K 1/10W(2012)
R980	1-216-663-11	s	RESISTOR,CHIP 3.3K 1/10W(2012)
R982	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R983	1-216-685-11	s	RESISTOR,CHIP 27K 1/10W(2012)
R986	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R987	1-216-679-11	s	RESISTOR,CHIP 15K 1/10W (2012)
R988	1-216-659-11	s	RESISTOR,CHIP 2.2K 1/10W(2012)
R989	1-216-679-11	s	RESISTOR,CHIP 15K 1/10W (2012)
R990	1-216-619-11	s	RESISTOR,CHIP 47 1/10W(2012)
R991	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R994	1-216-619-11	s	RESISTOR,CHIP 47 1/10W(2012)
R995	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R996	1-216-619-11	s	RESISTOR,CHIP 47 1/10W(2012)
R997	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R998	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R1000	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R1001	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R1003	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R1004	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R1005	1-216-675-11	s	RESISTOR,CHIP 10K 1/10W(2012)
R1006	1-216-295-91	s	RESISTOR,CHIP 0 (1/10W)
R1007	1-216-689-11	s	RESISTOR,CHIP 39K 1/10W(2012)
R1008	1-216-667-11	s	RESISTOR,CHIP 4.7K 1/10W(2012)
RB600	1-239-412-11	s	NETWORK,RESISTOR 100 (1608)
RB601	1-239-412-11	s	NETWORK,RESISTOR 100 (1608)
RB602	1-239-412-11	s	NETWORK,RESISTOR 100 (1608)
RB603	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB604	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB605	1-239-306-11	s	RESISTOR ARRAY,CHIP 10K
RB606	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB607	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB608	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB609	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB610	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB700	1-239-711-11	s	NETWORK,RESISTOR 0 (1608)
RB701	1-239-711-11	s	NETWORK,RESISTOR 0 (1608)
RB702	1-239-416-11	s	NETWORK,RESISTOR 220 (1608)
RB703	1-239-416-11	s	NETWORK,RESISTOR 220 (1608)
RB704	1-239-416-11	s	NETWORK,RESISTOR 220 (1608)
RB705	1-239-416-11	s	NETWORK,RESISTOR 220 (1608)
RB707	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB708	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB709	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB710	1-239-308-11	s	RESISTOR ARRAY,CHIP 47K
RB711	1-239-307-11	s	RESISTOR ARRAY,CHIP 22K
RV301	1-237-033-11	s	RESISTOR,ADJ,CERMET 1K
RV302	1-237-033-11	s	RESISTOR,ADJ,CERMET 1K
S300	1-570-711-11	s	SWITCH,SLIDE
S600	1-572-438-11	s	SWITCH,TACTIL
S601	1-570-711-11	s	SWITCH,SLIDE
S702	1-554-963-21	s	SWITCH,ROTARY (S-1011A)
S703	1-571-967-11	s	SWITCH,DIP(PIANO TYPE)

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Ref. No. or Q'ty	Part No.	SP	Description
S704	1-692-271-31	s	SWITCH,SLIDE
S705	1-692-271-31	s	SWITCH,SLIDE
S706	1-692-881-41	s	SWITCH,SLIDE
TH900	1-809-354-11	s	THERMISTOR,NTC (2125)
TH902	1-809-354-11	s	THERMISTOR,NTC (2125)
TH903	1-809-354-11	s	THERMISTOR,NTC (2125)
X302	1-767-329-11	s	OSCILLATOR, CRYSTAL
X303	1-767-328-11	s	OSCILLATOR, CRYSTAL
X600	1-579-594-11	s	VIBRATOR, CRYSTAL

LED-345 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
CN1	1-566-095-11	s	PIN,BOARD TO BOARD 11P
ND1	8-719-951-37	s	LED ARRAY LA-301V3
ND2	8-719-951-37	s	LED ARRAY LA-301V3

Section 4
Semiconductor Pin Assignments

The following describes the semiconductor types used in this unit.
For semiconductors marked with page numbers in the index, refer to the corresponding pages in this section. However, in some cases incompatible types are also listed, therefore, when a part is to be replaced, also refer to the Spare Parts section.
In addition, for semiconductors with ID Nos., refer to the separate CD-ROM titled “Semiconductor Pin Assignments” (Sony Part No. 9-968-546-xx) that allows searching for parts by semiconductor type or ID No.
The semiconductors in the manual or on the CD-ROM are listed by equivalent types. Thus the external view or the index mark indication may differ from the actual type.
Pin assignments and block diagrams are based on the IC manufacturer’s data book.

本機に使用されている半導体型名の一覧を下記に示します。
索引中，ページが記載されている半導体は，本章の該当ページを参照してください。ただし，互換性のない型名を併記している場合がありますので，部品を交換するときは，Spare Partsの章を参照してください。
また，ID番号が記載されている半導体は，別途発行の “Semiconductor Pin Assignments” CD−ROM版 (ソニー部品番号：9−968−546−xx)を参照してください。
半導体型名またはID番号から検索ができます。
マニュアルまたはCD−ROMに掲載されている半導体は，それぞれの機能を等価的に表わしたものです。
外観やインデックスマークの表示方法が実物と異なる場合があります。
ピン配置およびブロック図はICメーカーのデータブックに従いました。

DIODE — **Page or ID No.**

1SS123-T1 ..... DC001-01
1SS226 ..... DC001-01
1SV271-TPH3 ..... DC008-02

DA204U DC001-01
DA204UT106 ..... DC001-01

EA30QS04-F DC002-04
EA30QS04-TE16F2 ..... DC002-04

HSU276TRF DC008-02

RB420D DC001-01
RD4.7M-B DC001-04
RD4.7M-T1B DC001-04
RLS-73 ..... DC006-01
RLS-73-TE-11 ..... DC006-01

SB02-03C-TB DC001-01

UDZ-TE-17-4.3B DC008-04

LED — **Page or ID No.**

HLMP-6300-010 ..... LR055-01
HLMP-6500-010 ..... LR055-01

LA-301VB LR072-06

TRANSISTOR — **Page or ID No.**

2SA1611-M5M6 ..... TC001-01
2SA1611T1-M5M6 ..... TC001-01
2SC4116-GL TC001-02
2SC4116GL-TE85L TC001-02
2SC4177-L6 ..... TC001-02
2SC4177-T1L5L6 ..... TC001-02

DTA144EUA-T106 ..... TC001-04

SI4562DY TC012-03

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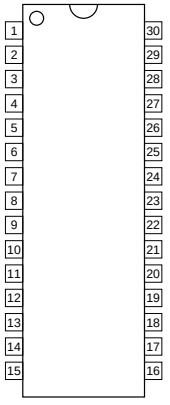
IC	Page or ID No.
74LCX244MTCX	TC74HC244P
74LCX541MTCX	MC74HC541N
74LCX574MTCX	TC74HC574P
74VHC74SJX	TC74HC74P
CXB1345N-T4	4-3
CXD9107R	4-3
EPM7256ATC144-10	4-5
HD64F2132FA20	4-4
IVA-14208-TR1	4-5
LM2931CMX	4-5
LMC6484IMX	TL084CN
LT1085CM-TR	4-5
LT1431CS8-E1	LT1431CS8-E1
MC100LVEL91DWR2	4-5
MC10EL11DR2	MC10EL11DR2
MC10EL16DR2	MC10EL16DR2
MC10EL52DR2	4-6
MC10H124M	MC10124L
MC10H124MEL	MC10124L
MC34182DR2	RC4558
MC74HC4053FEL	MC74HC4053F
NJM2406F	4-5
NJM2406F-TE2	4-5
NJU7211U30(TE1)	4-6
SC7S04F	TC7S04F
SN74ALS573CNS	4-6
SN74ALS573CNS-E05	4-6
SN74HCT541ANS	MC74HC541N
SN74HCT541ANSR	MC74HC541N
SN74LV573APWR	TC74HC573F
SN74LVTH245APW-E05	SN74LVTH245APW-E05
SN74LVTH245APWR	SN74LVTH245APW-E05
TC74VHC00FT(EL)	TC74HC00P
TC74VHC125FT(EL)	MC74HC125N
TC74VHC138FT(EL)	TC74HC138P
TC74VHCT00AFT(EL)	TC74HC00P
TC74VHCT245AFT(EL)	TC74HC245P
TC74VHCT541AFT(EL)	MC74HC541N
TC7S04F(TE85R)	TC7S04F
TC7S08F	TC7S08F
TC7S08F(TE85R)	TC7S08F
TL1451ACPWR	TL1451CNS
TL431CPS	TL431CP
TL431CPSR	TL431CP
TL7705ACPS	TL7705CP
TL7705ACPSR	TL7705CP
TLC272CPW-E05	TLC272CP
UPA102G-E1	UPA102G
UPC2712T-E3	UPC2712T-E3
XC95144-10TQ100C	4-6

http://getMANUAL.com

IC

CXB1345N-T4 (SONY)

CLOCK DATA RECOVERY
—TOP VIEW—



INPUTS

CLR	:	CLEAR
DIV1, DIV2	:	MODE SELECT
ECLK	:	CLOCK
INPUTSEL	:	INPUT SELECT
MODE	:	MODE
RCLK	:	REFERENCE CLOCK
SDATAP, SDATAN	:	SERIAL DATA
TEST	:	TEST

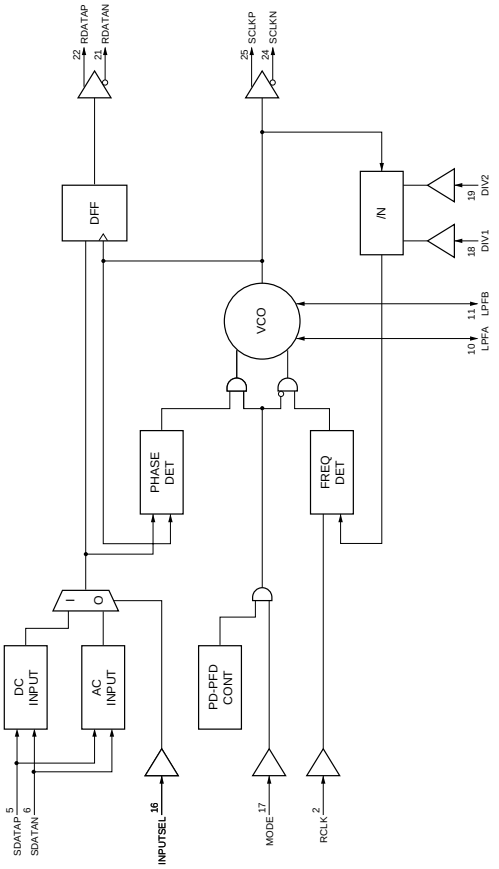
OUTPUTS

RDATAP, RDATAN	:	RETIMED DATA
SCLKP, SCLKN	:	RECOVERY CLOCK
TEST OUT1 - TEST OUT3	:	TEST

INPUTS/OUTPUTS

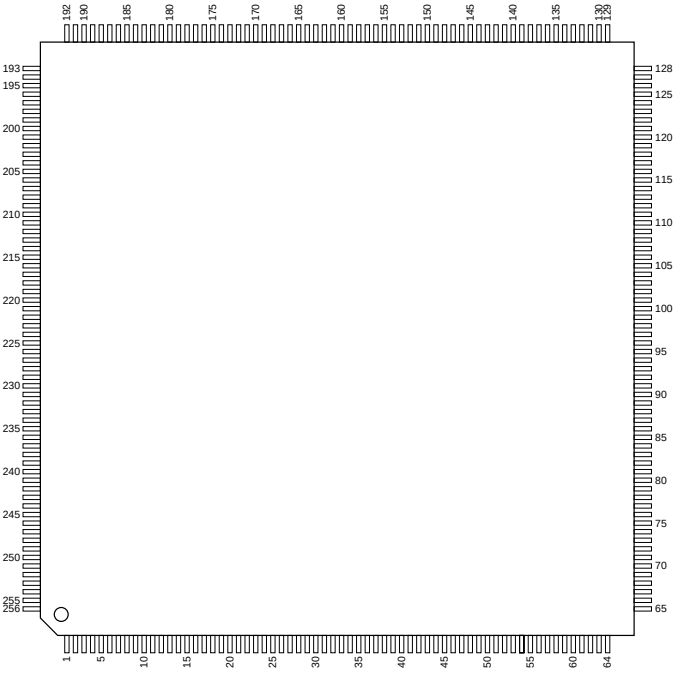
LPFA, LPFB	:	LOOP FILTER

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	VEE4	11	I/O	LPFB	21	O	RDATAN
2	I	RCLK	12	I	ECLK	22	O	RDATAP
3	—	VCC4	13	I	CLR	23	—	VEE1
4	O	TEST OUT1	14	—	VCC3	24	O	SCLKN
5	I	SDATAP	15	—	VEE3	25	O	SCLKP
6	I	SDATAN	16	I	INPUTSEL	26	—	VCC1
7	—	VEE2	17	I	MODE	27	—	VCC2
8	—	VCC2	18	I	DIV1	28	—	VEE2
9	I	TEST	19	I	DIV2	29	O	TEST OUT2
10	I/O	LPFA	20	—	VCC1	30	O	TEST OUT3



CXD9107R (SONY)

TIMING GENERATOR
—TOP VIEW—

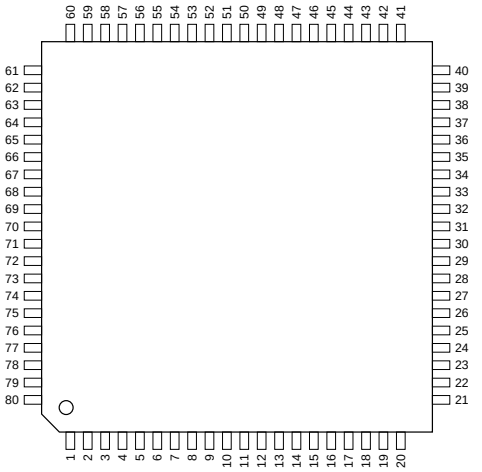


PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	O 3STSYNC 0V	65	I	I HDSDI H	129	I	VPD	193	I	I PLLTST MD0
2	—	VCC	66	I	CK VCO 17	130	I	I CF RET	194	I	I PLLTST MD1
3	—	VCC	67	I	CK VCO 14	131	I	I DEFMD0	195	I	I PLLTST MD2
4	—	GND	68	I	I HDSDI F	132	I	I DEFMD1	196	I	I PLLTST MD3
5	I	AVDD6	69	I	I HDSDI V	133	—	GND	197	O	O VREF A
6	I	AVDD7	70	I	CK HDSDI	134	—	VCC	198	I	I PLLTST RST
7	I	AVSS6	71	I	CK SDSDI	135	—	VCC	199	O	O VREF B
8	I	AVSS7	72	—	GND	136	I	I DEFMD2	200	—	GND
9	I	DA VREF	73	I	I SDSDI H	137	I	CK VCO 2458	201	O	O V0
10	O	VRO	74	—	VCC	138	—	VCC	202	—	VCC
11	O	O VAR ACKA	75	I	I SDSDI F	139	—	GND	203	O	O F0 CF0
12	I	AVDD8	76	I	I SDSDI V	140	I/O	B REF 2458	204	O	O H0
13	I	AVSS8	77	I	I VAR ACKA	141	I/O	B VAR 2458	205	O	O V1 HDCF0
14	O	O PAL AH	78	—	VCC	142	O	O CP 2458	206	O	O F1 HDCH0
15	I	AVDD9	79	—	VCC	143	O	O CP 246055	207	—	VCC
16	I	AVSS9	80	—	GND	144	I/O	B REF 246055	208	O	O H1 HDCH1
17	O	O HD 3STSYNC	81	O	O FRUN A	145	I/O	B VAR 246055	209	—	VCC
18	—	NC	82	O	O VAR DCKA	146	—	GND	210	—	GND
19	—	VCC	83	I/O	B REF A	147	—	VCC	211	O	O CK 38HDC
20	I	CK DATST	84	—	GND	148	—	VCC	212	—	GND
21	—	GND	85	—	VCC	149	I	CK VCO 2460	213	—	VCC
22	O	O DADOUT0	86	I	CK VCO A1	150	I	CK VCO 2455	214	O	O F2
23	O	O DADOUT1	87	I	CK VCO A0	151	—	GND	215	O	O V2
24	O	O DADOUT2	88	—	VCC	152	O	O CP 23	216	O	$\overline{O}$ H2
25	—	VCC	89	—	GND	153	—	VCC	217	O	O CF2
26	I	I DATST	90	I/O	B VAR A	154	I/O	B REF 23	218	O	O F3 HDCF2
27	I	I DAPD	91	O	O CP A	155	I/O	B VAR 23	219	O	O V3 HDCH2
28	—	VCC	92	O	O CK A	156	—	VCC	220	O	O V4 HDCF1
29	—	GND	93	O	O FRUN B	157	—	GND	221	—	VCC
30	O	O CK 2774PP	94	O	O CP B	158	I	CK VCO 2357	222	—	GND
31	I	I VCI 2774PP	95	O	O CK B	159	I	CK VCO 2359	223	O	O CK 46HDC
32	—	GND	96	—	GND	160	—	GND	224	—	GND
33	O	O CPO 2774PP	97	—	VCC	161	—	VCC	225	—	VCC
34	I	I DSYNC	98	I/O	B REF B	162	—	VCC	226	—	VCC
35	I	I COMP HD	99	I/O	B VAR B	163	—	GND	227	—	GND
36	I	I COMPN SD	100	I	CK VCO B1	164	O	O 512FS PPHDC	228	O	O CK 60HDC
37	I	I COMPS SD	101	I	CK VCO B0	165	O	O 256FS PPHDC	229	O	O H4 HDCH3
38	I	I PAL AH	102	—	VCC	166	O	O 64FS PPHDC	230	O	O F4 V8 HDCF3
39	I	I BURST	103	—	GND	167	O	O FS PPHDC	231	O	O F5 H8 HDCH4
40	—	VCC	104	I	CK CPUI	168	—	VCC	232	O	O V5 HDCF4
41	I	TMS	105	I	I CPUSTAT0	169	—	GND	233	O	O H5 HDCF5
42	I	TCK	106	I	I CPUSTAT1	170	—	VCC	234	O	O CF5 HDCH5
43	I	TRST	107	I	I XCPUCS	171	—	GND	235	O	O V6 HDCH6
44	O	TDO	108	—	GND	172	O	O CPO 24PP	236	—	GND
45	I	TDI	109	—	VCC	173	I	I VCI 24PP	237	—	VCC
46	—	GND	110	I	I XCPUSTRB	174	—	GND	238	O	O F6 HDCF6
47	—	VCC	111	I/O	B CPUAD0	175	—	VCC	239	O	O GOP6 F7 HDCF7
48	—	VCC	112	I/O	B CPUAD1	176	O	O 512FS MAIN	240	O	O H6 HDCH7
49	I	I ICTST	113	I/O	B CPUAD2	177	O	O 256FS MAIN	241	O	O H7 HDCH8
50	O	O SYNCG	114	—	VCC	178	O	O 128FS MAIN	242	—	VCC
51	O	O DETCF	115	I/O	B CPUAD3	179	O	O 64FS MAIN	243	O	O V7 HDCF8
52	O	O DSELECT	116	I/O	B CPUAD4	180	O	O FS MAIN	244	O	O V9
53	O	O BURSTG	117	I/O	B CPUAD5	181	O	O 512FS SUB	245	O	O H9
54	O	O LALT	118	—	VCC	182	O	O 256FS SUB	246	—	VCC
55	I	CK TST	119	—	GND	183	O	O 64FS SUB	247	—	GND
56	O	O FRUN 4FSC	120	I/O	B CPUAD6	184	O	O FS SUB	248	O	O V10
57	—	VCC	121	—	VCC	185	O	O PLLTST LD	249	—	VCC
58	O	O CK 4FSC	122	I/O	B CPUAD7	186	O	O PLLTST FB	250	O	O H10
59	—	GND	123	O	O CPUBUSY	187	—	GND	251	O	O V11
60	—	VCC	124	O	O AU LKDET	188	—	VCC	252	O	O H11
61	O	O CP 4FSC	125	O	O 5FID0	189	—	VCC	253	I	SDI0
62	—	VCC	126	O	O 5FID1	190	I	I CPTST	254	—	VCC
63	I/O	B REF FSC	127	O	O 5FID2	191	I	I PLLTST	255	—	GND
64	I/O	B VAR FSC	128	O	SDO0	192	I	CK PLLTST	256	I	RESET

HD64F2132FA20 (HITACHI)

16-BIT MICROCOMPUTER

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	$\overline{RES}$	28	I/O	P67/CIN7/$\overline{KIN7}$/$\overline{IRQ7}$	55	I/O	P20/A8
2	I	XTAL	29	—	AVcc	56	—	GND
3	I	EXTAL	30	I	P70/AN0	57	I/O	P17/A7
4	I	MD1	31	I	P71/AN1	58	I/O	P16/A6
5	I	MD0	32	I	P72/AN2	59	I/O	P15/A5
6	I	NMI	33	I	P73/AN3	60	I/O	P14/A4
7	I	$\overline{STBY}$	34	I	P74/AN4	61	I/O	P13/A3
8	—	Vcc	35	I	P75/AN5	62	I/O	P12/A2
9	I/O	P52/SCK0	36	I/O	P76/AN6/DA0	63	I/O	P11/A1
10	I/O	P51/RxD0	37	I/O	P77/AN7/DA1	64	I/O	P10/A0
11	I/O	P50/TxD0	38	—	A.GND	65	I/O	P30/D8
12	—	GND	39	I/O	P40/TMCI0/TxD2/IrTxD	66	I/O	P31/D9
13	I/O	P97/$\overline{WAIT}$	40	I/O	P41/TMO0/RxD2/IrRxD	67	I/O	P32/D10
14	I/O	P96/ø/EXCL	41	I/O	P42/TMRI0/SCK2	68	I/O	P33/D11
15	I/O	P95/$\overline{AS}$/$\overline{IOS}$	42	I/O	P43/TMCI1	69	I/O	P34/D12
16	I/O	P94/$\overline{HWR}$	43	I/O	P44/TMO1	70	I/O	P35/D13
17	I/O	P93/$\overline{RD}$	44	I/O	P45/TMRI1	71	I/O	P36/D14
18	I/O	P92/$\overline{IRQ0}$	45	I/O	P46/PWX0	72	I/O	P37/D15
19	I/O	P91/$\overline{IRQ1}$	46	I/O	P47/PWX1	73	—	GND
20	I/O	P90/$\overline{IRQ2}$/$\overline{ADTRG}$	47	—	Vcc	74	I/O	P80
21	I/O	P60/FTCI/CIN0/$\overline{KIN0}$	48	I/O	P27/A15	75	I/O	P81
22	I/O	P61/FTOA/CIN1/$\overline{KIN1}$	49	I/O	P26/A14	76	I/O	P82
23	I/O	P62/FTIA/CIN2/$\overline{KIN2}$/TMIY	50	I/O	P25/A13	77	I/O	P83
24	I/O	P63/FTIB/CIN3/$\overline{KIN3}$	51	I/O	P24/A12	78	I/O	P84/$\overline{IRQ3}$/TxD1
25	I/O	P64/FTIC/CIN4/$\overline{KIN4}$	52	I/O	P23/A11	79	I/O	P85/$\overline{IRQ4}$/RxD1
26	I/O	P65/FTID/CIN5/$\overline{KIN5}$	53	I/O	P22/A10	80	I/O	P86/$\overline{IRQ5}$/SCK1
27	I/O	P66/FTOB/CIN6/$\overline{KIN6}$/$\overline{IRQ6}$	54	I/O	P21/A9			

INPUTS

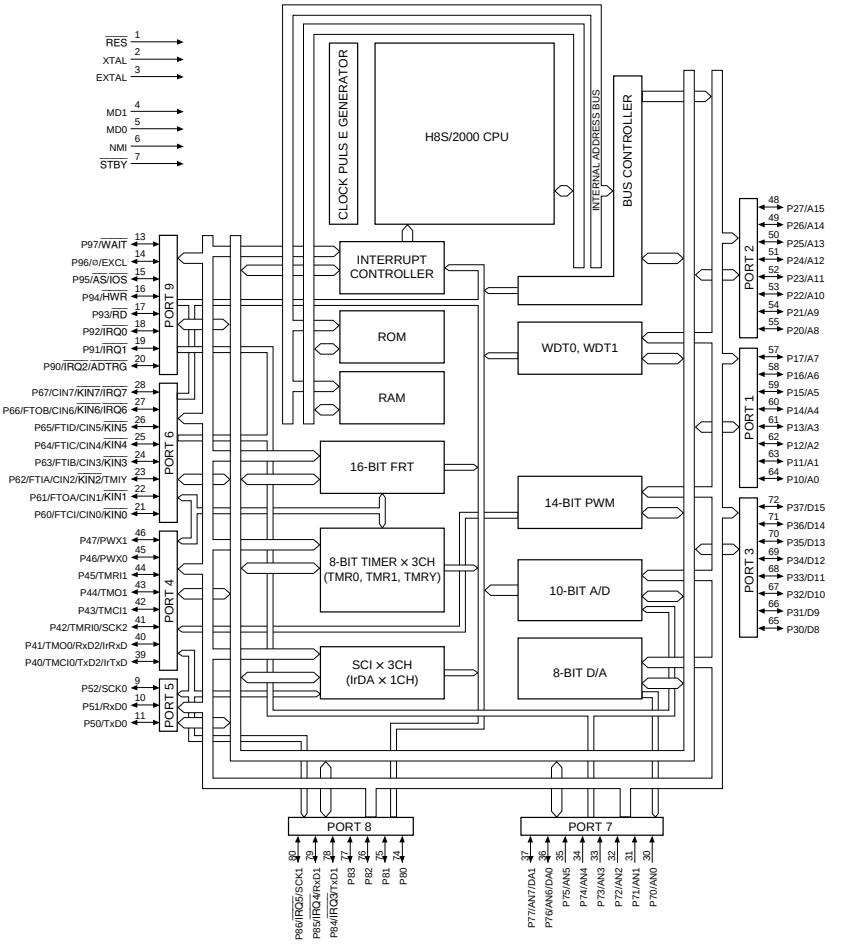
$\overline{ADTRG}$	: A/D CONVERSION EXTERNAL TRIGGER
AN0 - AN7	: ANALOG
CIN0 - CIN7	: COMPARATOR
EXCL	: EXTERNAL SUBCLOCK
EXTAL	: EXTERNAL CLOCK
FTCI	: FRT COUNTER CLOCK
FTIA - FTID	: FRT INPUT CAPTURE A - D
$\overline{IOR}$	: I/O READ
$\overline{IOW}$	: I/O WRITE
$\overline{IRQ0}$ - $\overline{IRQ7}$	: INTERRUPT REQUEST
IrRxD	: IrDA RECEIVE
$\overline{KIN0}$ - $\overline{KIN7}$	: KEYBOARD
MD0, MD1	: MODE
NMI	: NONMASKABLE INTERRUPT
P70 - P77	: PORT 7
$\overline{RES}$	: RESET
RxD0 - RxD2	: RECEIVE DATA
$\overline{STBY}$	: STANDBY
TMCI0, TMCI1	: COUNTER EXTERNAL CLOCK
TMIY	: COUNTER EXTERNAL CLOCK AND RESET
TMRI0, TMRI1	: COUNTER EXTERNAL RESET
$\overline{WAIT}$	: WAIT
XTAL	: CRYSTAL OSCILLATOR

OUTPUTS

A0 - A15	: ADDRESS BUS
$\overline{AS}$	: ADDRESS STROBE
DA0, DA1	: ANALOG
FTOA, FTOB	: FRT OUTPUT COMPARE A, B
$\overline{HWR}$	: HIGH WRITE
$\overline{IOS}$	: I/O STROBE
IrTxD	: IrDA TRANSMIT DATA
PW0 - PW15	: PWM TIMER
PWX0, PWX1	: PWM TIMER
$\overline{RD}$	: READ
TMO0, TMO1	: COMPARE MATCH
TxD0 - TxD2	: TRANSMIT DATA
ø	: SYSTEM CLOCK

INPUTS/OUTPUTS

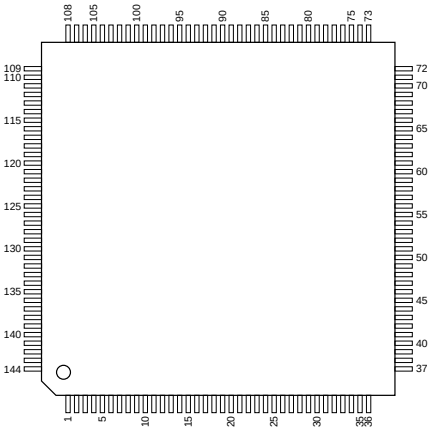
D8 - D15	: DATA BUS
P10 - P17	: PORT 1
P20 - P27	: PORT 2
P30 - P37	: PORT 3
P40 - P47	: PORT 4
P50 - P52	: PORT 5
P60 - P67	: PORT 6
P80 - P86	: PORT 8
P90 - P97	: PORT 9
SCK0 - SCK2	: SERIAL CLOCK



EPM7256ATC144-10

PLD

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I/O	I/O	37	I/O	I/O	73	—	VccIO	109	I/O	I/O
2	I/O	I/O	38	I/O	I/O	74	I/O	I/O	110	I/O	I/O
3	—	GNDIO	39	I/O	I/O	75	I/O	I/O	111	I/O	I/O
4	I/O	I/O/TDI	40	I/O	I/O	76	—	VccIO	112	I/O	I/O
5	I/O	I/O	41	I/O	I/O	77	I/O	I/O	113	I/O	I/O
6	I/O	I/O	42	I/O	I/O	78	I/O	I/O	114	I/O	I/O
7	I/O	I/O	43	I/O	I/O	79	I/O	I/O	115	—	VccIO
8	I/O	I/O	44	I/O	I/O	80	I/O	I/O	116	I/O	I/O
9	I/O	I/O	45	I/O	I/O	81	I/O	I/O	117	I/O	I/O
10	I/O	I/O	46	I/O	I/O	82	I/O	I/O	118	I/O	I/O
11	I/O	I/O	47	I/O	I/O	83	I/O	I/O	119	I/O	I/O
12	I/O	I/O	48	I/O	I/O	84	I/O	I/O	120	I/O	I/O
13	—	GNDIO	49	I/O	I/O	85	—	GNDIO	121	I/O	I/O
14	I/O	I/O	50	—	VccIO	86	I/O	I/O	122	I/O	I/O
15	I/O	I/O	51	—	VccINT	87	I/O	I/O	123	—	VccINT
16	I/O	I/O	52	—	GNDINT	88	I/O	I/O	124	—	GNDINT
17	—	GNDIO	53	I/O	I/O	89	I/O	I/O/TCK	125	I	INPUT/GCLK1
18	I/O	I/O	54	I/O	I/O	90	I/O	I/O	126	I	INPUT/OE1
19	I/O	I/O	55	I/O	I/O	91	I/O	I/O	127	I	INPUT/GCLR
20	I/O	I/O/TMS	56	I/O	I/O	92	I/O	I/O	128	I	INPUT/OE2/GCLK2
21	I/O	I/O	57	—	GNDINT	93	I/O	I/O	129	—	GNDINT
22	I/O	I/O	58	—	VccINT	94	I/O	I/O	130	—	VccINT
23	I/O	I/O	59	—	GNDIO	95	—	VccIO	131	I/O	I/O
24	—	VccIO	60	I/O	I/O	96	I/O	I/O	132	I/O	I/O
25	I/O	I/O	61	I/O	I/O	97	I/O	I/O	133	I/O	I/O
26	I/O	I/O	62	I/O	I/O	98	I/O	I/O	134	I/O	I/O
27	I/O	I/O	63	I/O	I/O	99	I/O	I/O	135	—	GNDIO
28	I/O	I/O	64	—	GNDIO	100	I/O	I/O	136	I/O	I/O
29	I/O	I/O	65	I/O	I/O	101	I/O	I/O	137	I/O	I/O
30	I/O	I/O	66	I/O	I/O	102	I/O	I/O	138	I/O	I/O
31	I/O	I/O	67	I/O	I/O	103	I/O	I/O	139	I/O	I/O
32	I/O	I/O	68	I/O	I/O	104	I/O	I/O/TDO	140	I/O	I/O
33	—	GNDIO	69	I/O	I/O	105	—	GNDIO	141	I/O	I/O
34	I/O	I/O	70	I/O	I/O	106	I/O	I/O	142	I/O	I/O
35	I/O	I/O	71	I/O	I/O	107	I/O	I/O	143	I/O	I/O
36	I/O	I/O	72	I/O	I/O	108	I/O	I/O	144	—	VccIO

INPUTS

GCLK1, GCLK2 : GLOBAL CLOCK1, 2
$\overline{GCLR}$: GLOBAL CLEAR
OE1, OE2 : OUTPUT ENABLE1, 2
TCK : JTAG CLOCK
TDI : JTAG DATA
TMS : JTAG MODE SELECT

OUTPUT

TDO : JTAG DATA

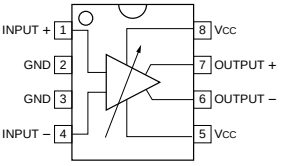
INPUT/OUTPUT

I/O : DATA

IVA-14208-TR1 (HP)

2.5GHz VARIABLE GAIN AMPLIFIER

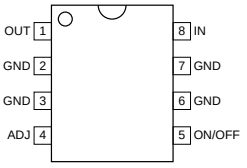
—TOP VIEW—



LM2931CMX (NS)

LOW DROPOUT REGULATOR

—TOP VIEW—

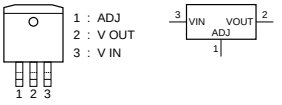


ADJ : ADJUSTABLE OUTPUT VOLTAGE

LT1085CM-TR (LINEAR TECH)

POSITIVE ADJUSTABLE REGULATOR

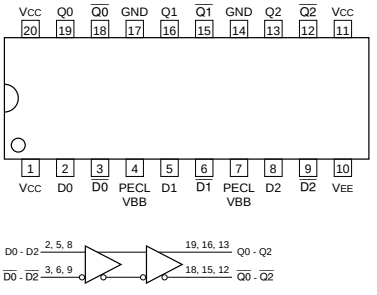
—FRONT VIEW—



MC100LVEL91DWR2 (MOTOROLA)

TRIPLE PECL TO ECL TRANSLATOR

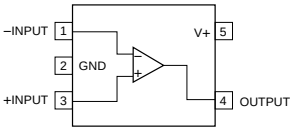
—TOP VIEW—



NJM2406F (JRC)
NJM2406F-TE2

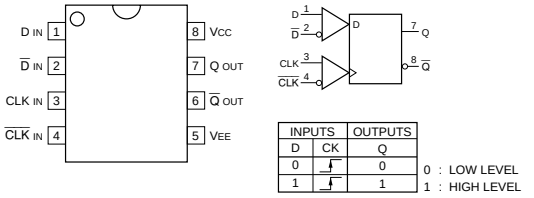
SINGLE COMPARATOR

—TOP VIEW—



MC10EL52DR2 (MOTOROLA)

D FLIP-FLOP WITH DIFFERENTIAL DATA AND CLOCK
—TOP VIEW—

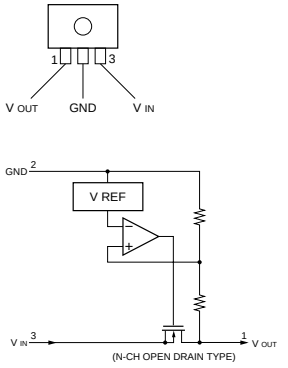


INPUTS		OUTPUTS
D	CK	Q
0	↑	0
1	↑	1

0 : LOW LEVEL
1 : HIGH LEVEL

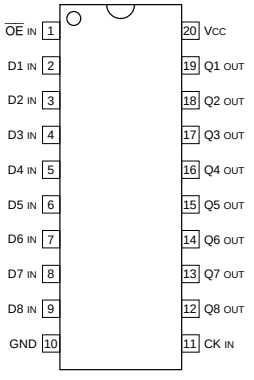
NJU7211U50
NJU7211U30(TE1) (JRC)

NEGATIVE VOLTAGE REGULATOR
—SIDE VIEW—



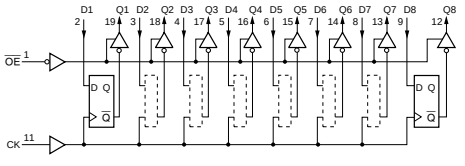
SN74ALS573N
SN74ALS573CNS (TI)
SN74ALS573CNS-E05

TTL OCTAL D-TYPE LATCHES WITH 3-STATE OUTPUT
—TOP VIEW—



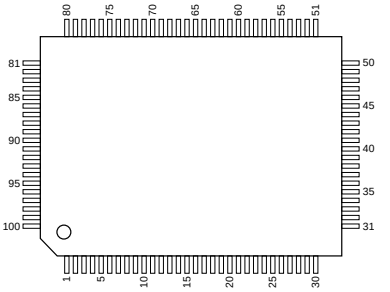
INPUTS			OUT
OE	CK	D	Q
0	1	1	1
0	1	0	0
0	0	×	Q 0
1	×	×	HI-Z

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE
OE : OUTPUT ENABLE



XC95144-10TQ100C (XILINX)

IN-SYSTEM PROGRAMMABLE CPLD
—TOP VIEW—

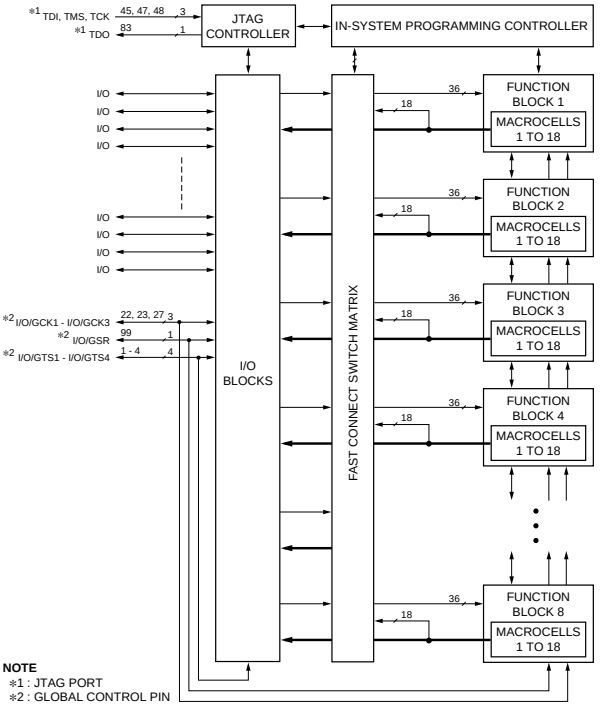


PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I/O	I/O/GTS3	26	—	VCC	51	—	VCC	76	I/O	I/O
2	I/O	I/O/GTS4	27	I/O	I/O/GCK3	52	I/O	I/O	77	I/O	I/O
3	I/O	I/O/GTS1	28	I/O	I/O	53	I/O	I/O	78	I/O	I/O
4	I/O	I/O/GTS2	29	I/O	I/O	54	I/O	I/O	79	I/O	I/O
5	—	VCC	30	I/O	I/O	55	I/O	I/O	80	I/O	I/O
6	I/O	I/O	31	—	GND	56	I/O	I/O	81	I/O	I/O
7	I/O	I/O	32	I/O	I/O	57	—	VCC	82	I/O	I/O
8	I/O	I/O	33	I/O	I/O	58	I/O	I/O	83	O	TDO
9	I/O	I/O	34	I/O	I/O	59	I/O	I/O	84	—	GND
10	I/O	I/O	35	I/O	I/O	60	I/O	I/O	85	I/O	I/O
11	I/O	I/O	36	I/O	I/O	61	I/O	I/O	86	I/O	I/O
12	I/O	I/O	37	I/O	I/O	62	—	GND	87	I/O	I/O
13	I/O	I/O	38	—	VCC	63	I/O	I/O	88	—	VCC
14	I/O	I/O	39	I/O	I/O	64	I/O	I/O	89	I/O	I/O
15	I/O	I/O	40	I/O	I/O	65	I/O	I/O	90	I/O	I/O
16	I/O	I/O	41	I/O	I/O	66	I/O	I/O	91	I/O	I/O
17	I/O	I/O	42	I/O	I/O	67	I/O	I/O	92	I/O	I/O
18	I/O	I/O	43	I/O	I/O	68	I/O	I/O	93	I/O	I/O
19	I/O	I/O	44	—	GND	69	—	GND	94	I/O	I/O
20	I/O	I/O	45	I	TDI	70	I/O	I/O	95	I/O	I/O
21	—	GND	46	I/O	I/O	71	I/O	I/O	96	I/O	I/O
22	I/O	I/O/GCK1	47	I	TMS	72	I/O	I/O	97	I/O	I/O
23	I/O	I/O/GCK2	48	I	TCK	73	I/O	I/O	98	—	VCC
24	I/O	I/O	49	I/O	I/O	74	I/O	I/O	99	I/O	I/O/GSR
25	I/O	I/O	50	I/O	I/O	75	—	GND	100	—	GND

INPUTS
TCK : JTAG CLOCK
TDI : JTAG DATA
TMS : JTAG MODE SELECT

INPUTS/OUTPUTS
I/O/GCK1 - I/O/GCK3 : GLOBAL CONTROL
I/O/GSR : GLOBAL CONTROL
I/O/GTS1 - I/O/GTS4 : GLOBAL CONTROL

OUTPUT
TDO : JTAG DATA



NOTE
*1 : JTAG PORT
*2 : GLOBAL CONTROL PIN

Section 5
Block Diagrams

5-1. Circuit Description

(1) DIF-103 Board (Input side)

The DIF-103 board mounts a cable equalizer and PLL IC as the circuit block on the input side.
The provided HD SDI signal to CN11 is automatically equalized (cable-compensated) for a cable loss of maximum 100 m (5C-FB) using a cable equalizer (A12).
The equalized serial data is identified into the binary data using the comparator in the A12 and is distributed to the clock extractor PLL (IC13) in the next stage.
In the PLL, a clock signal is extracted to lock in phase the inside VCO to the restored serial data to the binary data.
After the input signal is latched using the extracted serial clock and then converted the data and the clock into ECL level in pairs are provided to the DPR-151C board (processor board) in the latter stage.
The PLL has the detecting function of the input signal or not. When a signal does not input, the HD SDI output is performed to turn off via the CPU of the DPR-151C board.
When an input situation changes from no signal to signal input, the VCO (X1) is mounted for free-run so that the PLL pull-in process is quickly executed.

(2) DIF-103 Board (Output side)

The provided serial data from the DPR-151C board is latched by IC1 in the entrance stage and is provided to the cable driver (IC10, IC11 and IC12) distributing of IC4, IC7 and IC8.
RV1, RV2 and RV3 are the output amplitude adjustment volumes.
Two signals (inverted and non-inverted signals) are provided from the cable driver, are provided as each HD SDI output signal and six HD SDI output signals in all are obtained.

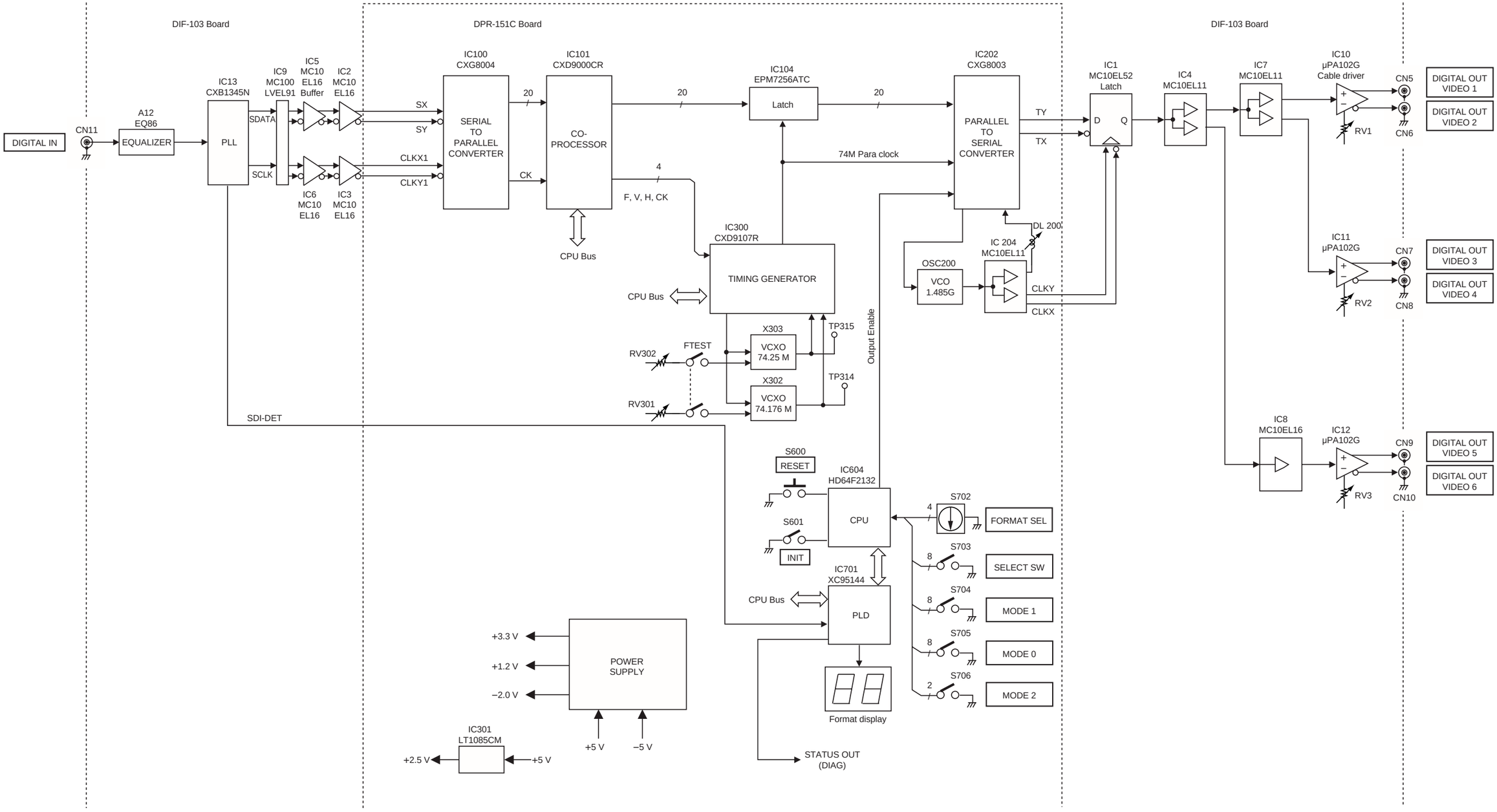
(3) DPR-151C Board

The serial data and the clock from the DIF-103 board are provided to the serial-to-parallel converter of IC100 and are converted into the 20-bit parallel data of 74 MHz rate.
IC101 is a format decoder and is extracted each timing signal (F, V, and H) from the received video timing standard code (EAV/SAV).
HKPF-103M has an internal PLL circuit that is used VCXOs and reproduces a stable clock signal using the PLL circuit.
The PLL circuit consisting of a timing generator (IC300) and VCXOs (X302 and X303) is generated the parallel clock that is locked to the extracted H signal by IC101.
The used VCXOs (X302 and X303) in this block are automatically selected 74.25 MHz or 74.25 MHz/1.001 according to the field frequency of the received serial data.
The 20-bit parallel data is carried out the re-timing of a clock by IC104 and is provided to the parallel-to-serial converter IC of IC202 together with a 74.25 MHz or 74.25 MHz/1.001 clock.
The parallel-to-serial converter IC has an internal phase comparator for serial clock regeneration and is re-generated a 1.485 GHz serial clock by combining the internal phase comparator and the external VCO (OSC200).
The serial data and the clock signal are provided to the DIF-103 board in pairs.

HKPF-103M has an internal CPU (IC604), is initialized each device and judges the operating format and controls the status output.
HKPF-103M is interfaced with the DIP switches and the LEDs through IC701 (parallel interface unit), is carried out the settings of the switches and the displays of LED indicators through CPU.
HKPF-103M corresponds to the multi-format, can be automatically or manually selected the objective format by S703-3.
In the manual selection, the format is specified by the S702 rotary switch. On the other side, in the automatic format selection, the format that is corresponded with the input HD SDI signal within the format according to the selected bit by S704 and S705, is selected and is set.

The DPR-151C board mounts the switching regulators of the +3.3 V, +1.2 V and −2 V and the series regulator of the +2.5 V as a power supply circuit. These voltages required as the power supply for ASIC are generated by DC-DC converting the +5 V and −5 V voltages that are supplied from the mother board of PFV-HD50/HD300.

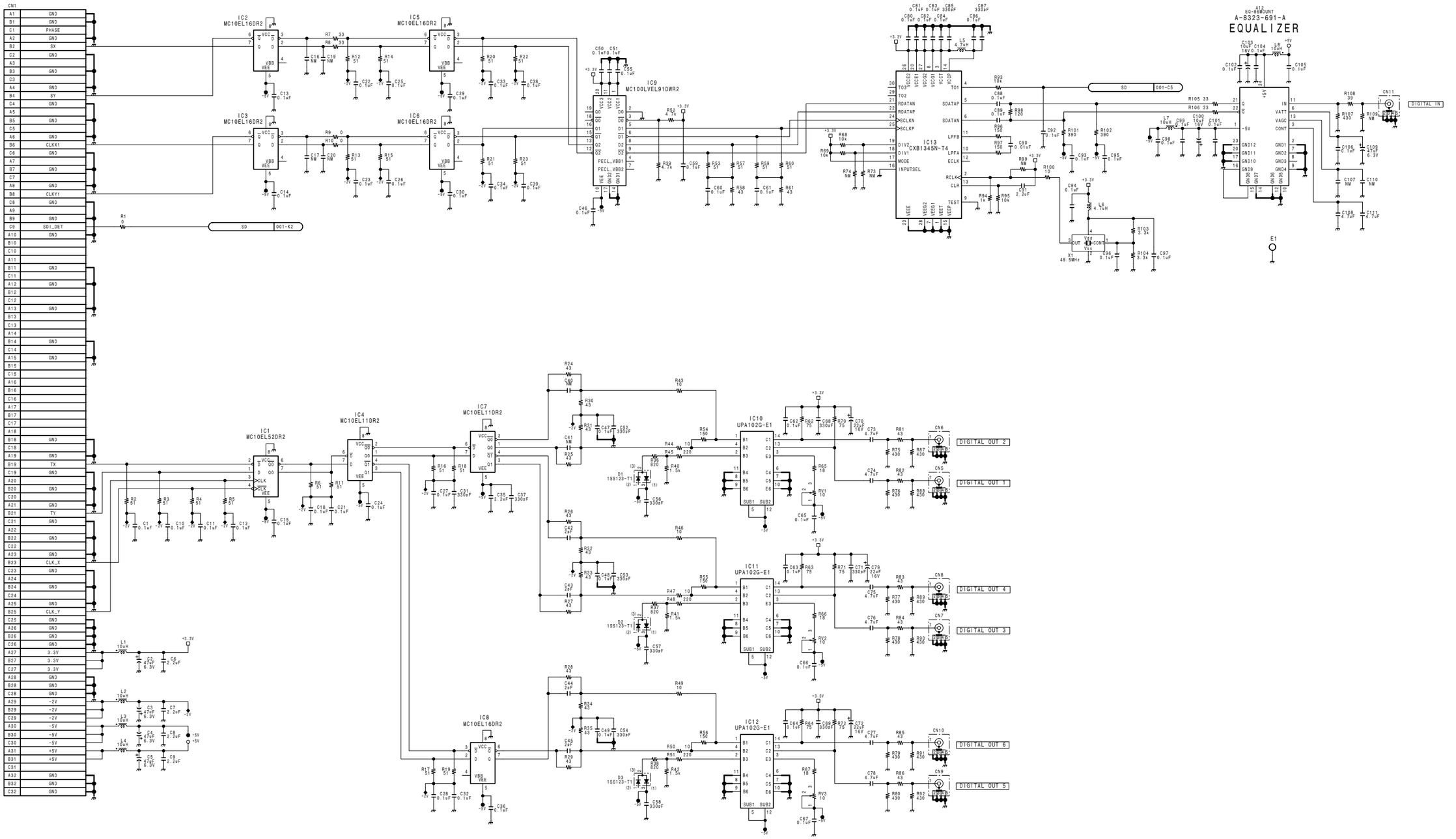
5-2. Overall



Overall
HD Digital Video Distributor Block

Section 6
Schematic Diagrams

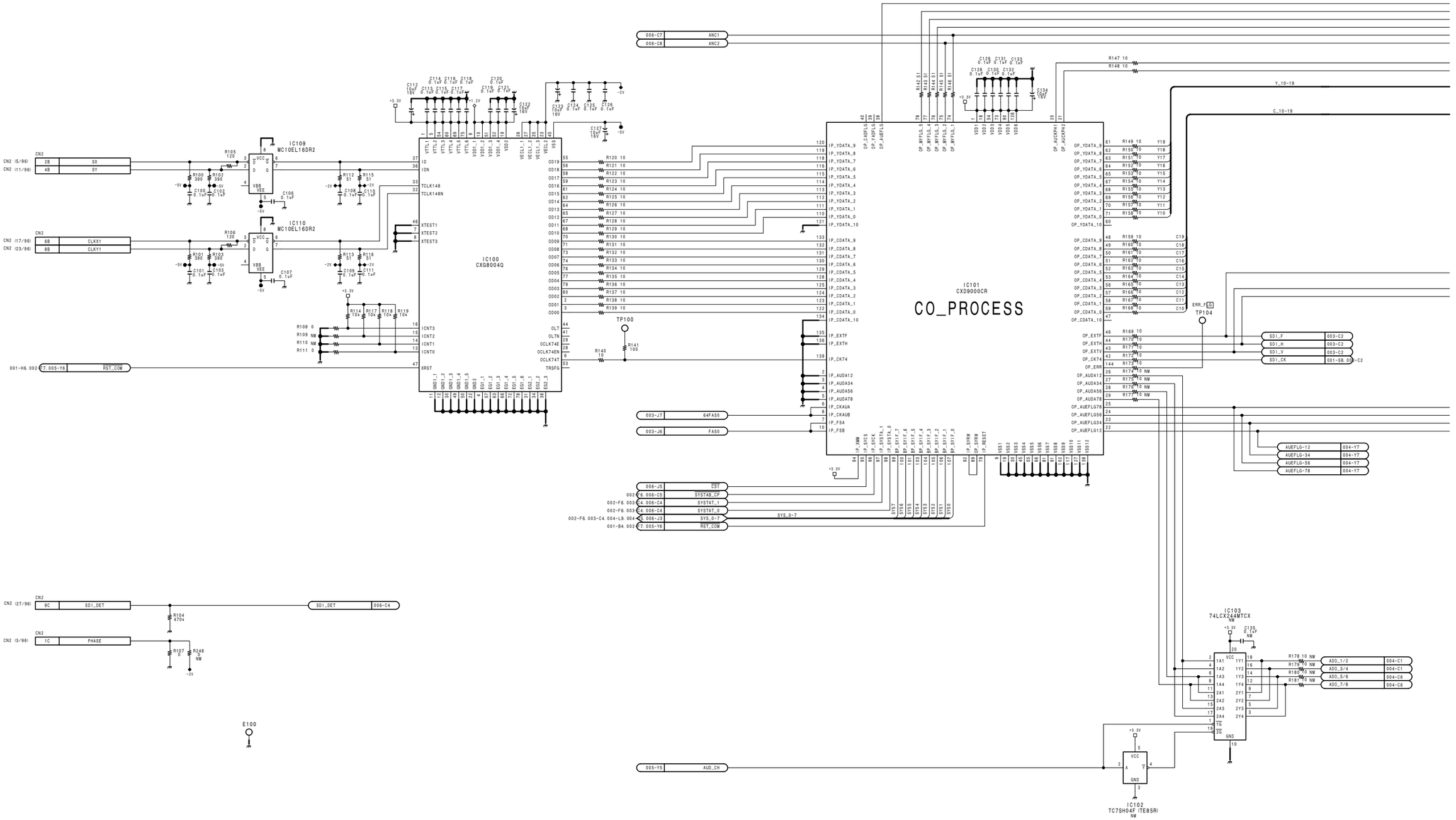
HKPF-103M (UC J) : S/N 10101 and Higher



DIF-103
BOARD NO. 1-675-766-11
HKPF-103M_DIF-103_002_1

DPR-151C (1/7)

HKPF-103M (UC J) : S/N 10101 and Higher


IC101
CXD9000CR
CO_PROCESS
IC100
CXG8004Q
IC109
MC10EL16DR2
IC110
MC10EL16DR2
IC103
74LCX244MTCX
NM
IC102
TC7SH04F (TE85R)
NM
TP100
TP104
E100
CN2 (5/96) 2B SX
CN2 (11/96) 4B SY
CN2 (17/96) 6B CLKX1
CN2 (23/96) 8B CLKY1
CN2 (27/96) 9C SD1_DET
CN2 (3/96) 1C PHASE
001-H6. 002-E7. 005-Y6 RST_COM
006-C7 ANC1
006-C8 ANC2
003-J7 64FAS0
003-J6 FAS0
006-J5 CST
002-F6. 006-C5 SYSTAB_CP
002-F6. 003-C4. 006-C4 SYSTAT_1
002-F6. 003-C4. 006-C4 SYSTAT_0
002-F6. 006-J3 SYS_0-7
001-B4. 002-E7. 005-Y6 RST_COW
005-Y5 AUD_CH
SD1_DET 006-C4
SDI_F 003-C2
SDI_H 003-C2
SDI_V 003-C2
SDI_CK 001-S8. 003-C2
AUEFLG-12 004-Y7
AUEFLG-34 004-Y7
AUEFLG-56 004-Y7
AUEFLG-78 004-Y7
ADO_1/2 004-C1
ADO_3/4 004-C1
ADO_5/6 004-C6
ADO_7/8 004-C6
Y_10-19
C_10-19
ERR_F
IP_YDATA_9
IP_YDATA_8
IP_YDATA_7
IP_YDATA_6
IP_YDATA_5
IP_YDATA_4
IP_YDATA_3
IP_YDATA_2
IP_YDATA_1
IP_YDATA_0
IP_YDATA_10
IP_CDATA_9
IP_CDATA_8
IP_CDATA_7
IP_CDATA_6
IP_CDATA_5
IP_CDATA_4
IP_CDATA_3
IP_CDATA_2
IP_CDATA_1
IP_CDATA_0
IP_CDATA_10
IP_EXTF
IP_EXTH
IP_CK74
IP_AUDA12
IP_AUDA34
IP_AUDA56
IP_AUDA78
IP_CKAUA
IP_CKAUB
IP_FSA
IP_FSB
OP_YDATA_9
OP_YDATA_8
OP_YDATA_7
OP_YDATA_6
OP_YDATA_5
OP_YDATA_4
OP_YDATA_3
OP_YDATA_2
OP_YDATA_1
OP_YDATA_0
OP_YDATA_10
OP_CDATA_9
OP_CDATA_8
OP_CDATA_7
OP_CDATA_6
OP_CDATA_5
OP_CDATA_4
OP_CDATA_3
OP_CDATA_2
OP_CDATA_1
OP_CDATA_0
OP_CDATA_10
OP_EXTF
OP_EXTH
OP_EXTV
OP_CK74
OP_ERR
OP_AUDA12
OP_AUDA34
OP_AUDA56
OP_AUDA78
OP_AUEFLG78
OP_AUEFLG56
OP_AUEFLG34
OP_AUEFLG12
OP_CASFLG
OP_YAEFLG
OP_AUEFLG
OP_MYFLG_5
OP_MYFLG_4
OP_MYFLG_3
OP_MYFLG_2
OP_MYFLG_1
OP_AUCKPH1
OP_AUCKPH2
OP_XWM
OP_SYCS
OP_SYCK
OP_SYSTA_1
OP_SYSTA_0
OP_SYIF_7
OP_SYIF_6
OP_SYIF_5
OP_SYIF_4
OP_SYIF_3
OP_SYIF_2
OP_SYIF_1
OP_SYIF_0
OP_SYRW
OP_SYRW
OP_RESET
CXT
CXB
CXR
CXG
CXB
CXR
CXG
CXB
CXR
CXG

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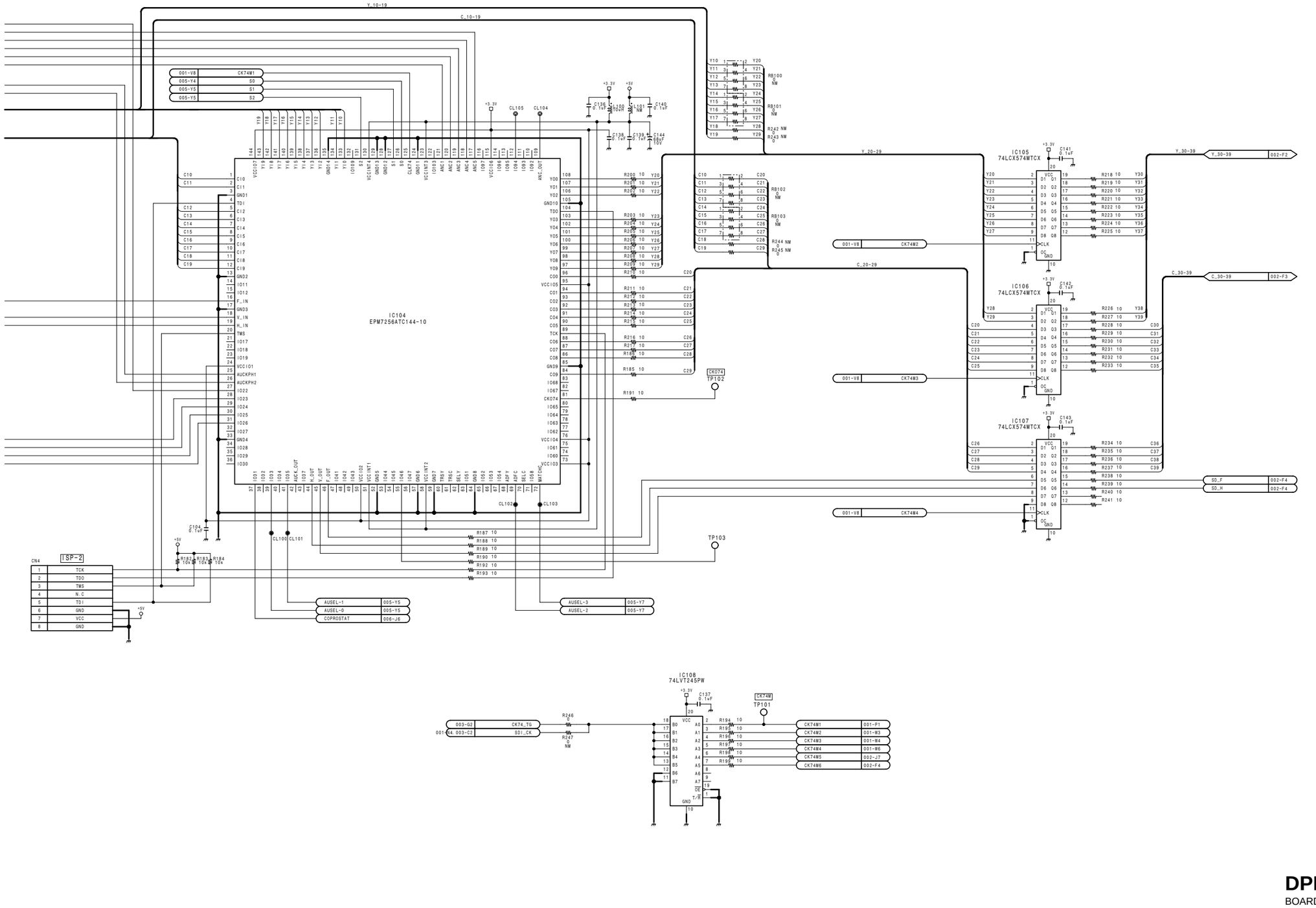
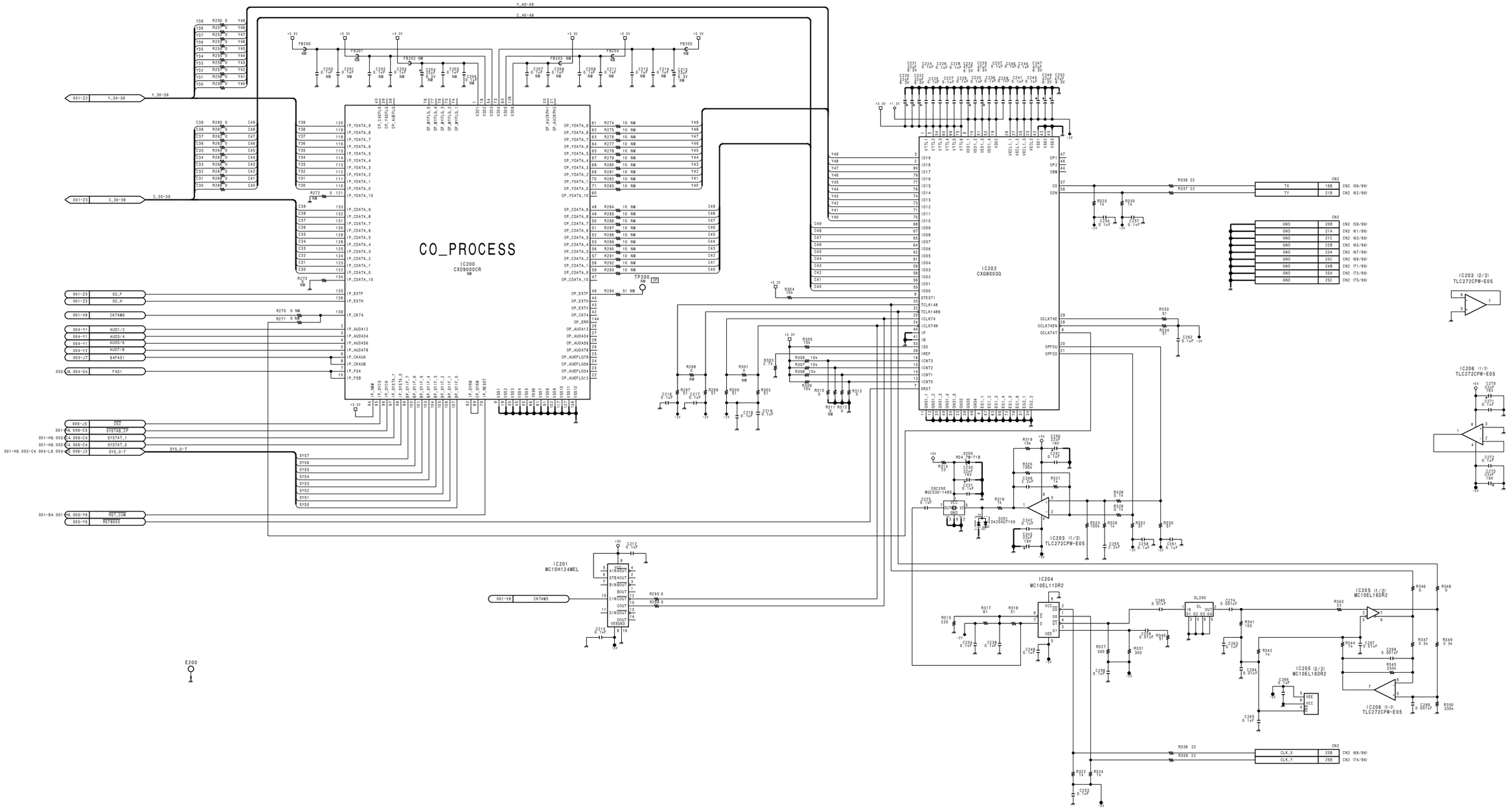


DPR-151C (1/7)

BOARD NO. 1-675-763-11

HKPF-103M_DPR-151C_003_1

HKPF-103M (UC J) : S/N 10101 and Higher



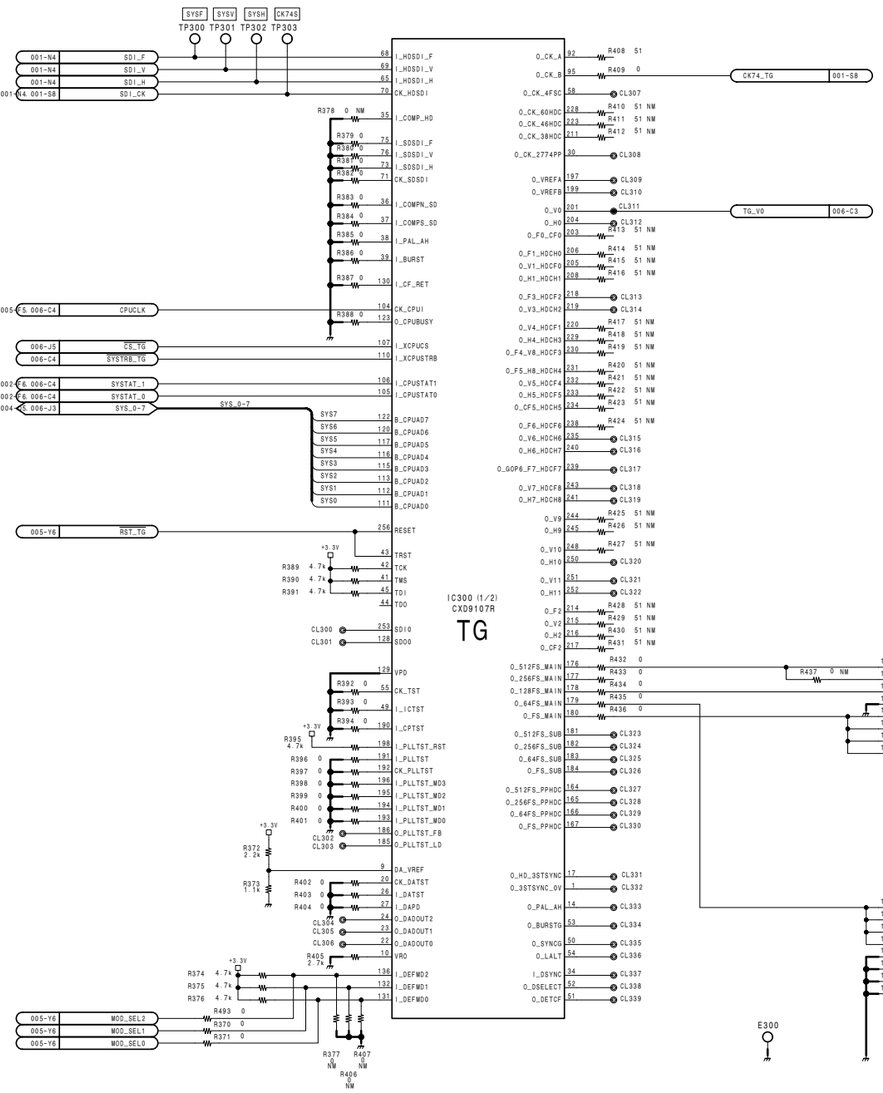
DPR-151C (2/7)

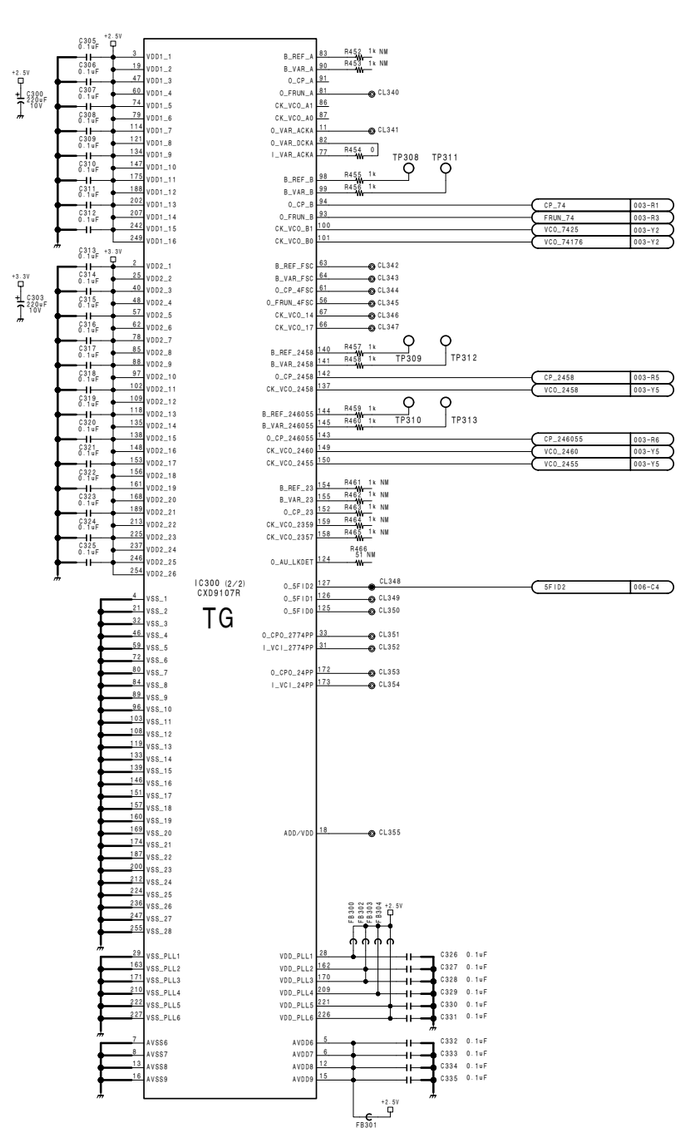
BOARD NO. 1-675-763-11

HKPF-103M_DPR-151C_003_2

DPR-151C (3/7)

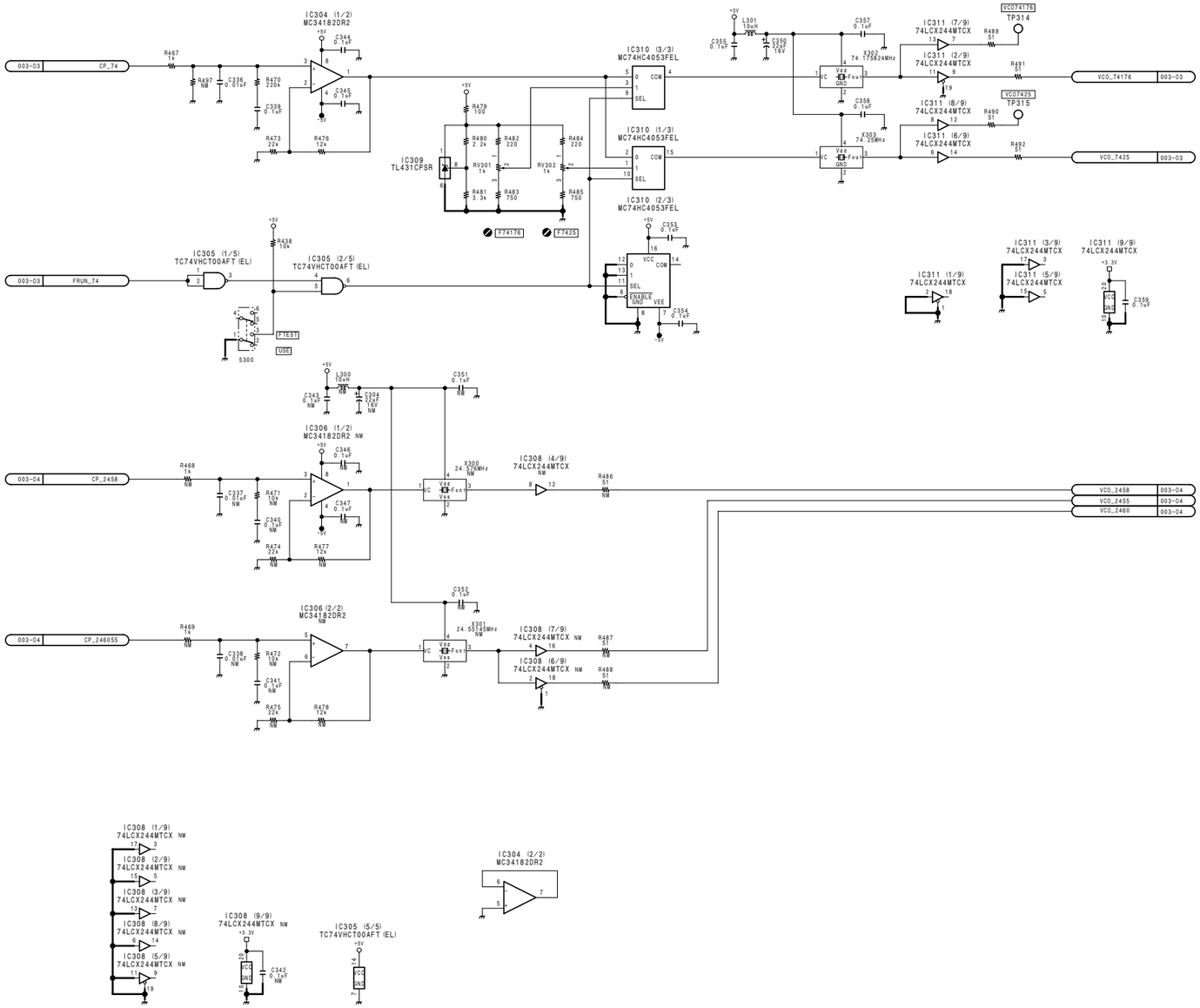
HKPF-103M (UC J) : S/N 10101 and Higher





6-6

DPR-151C (3/7)



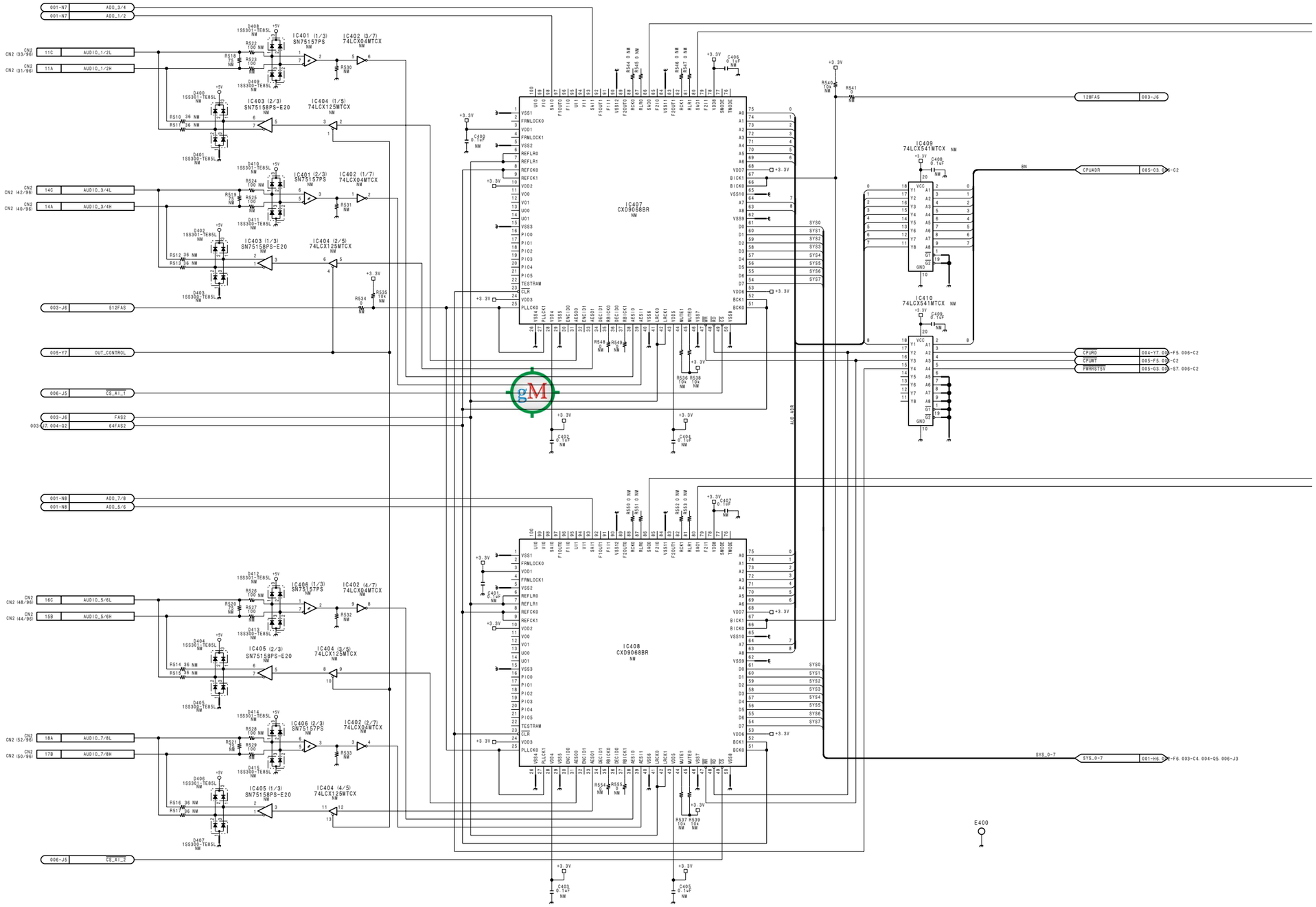
DPR-151C (3/7)

BOARD NO. 1-675-763-11

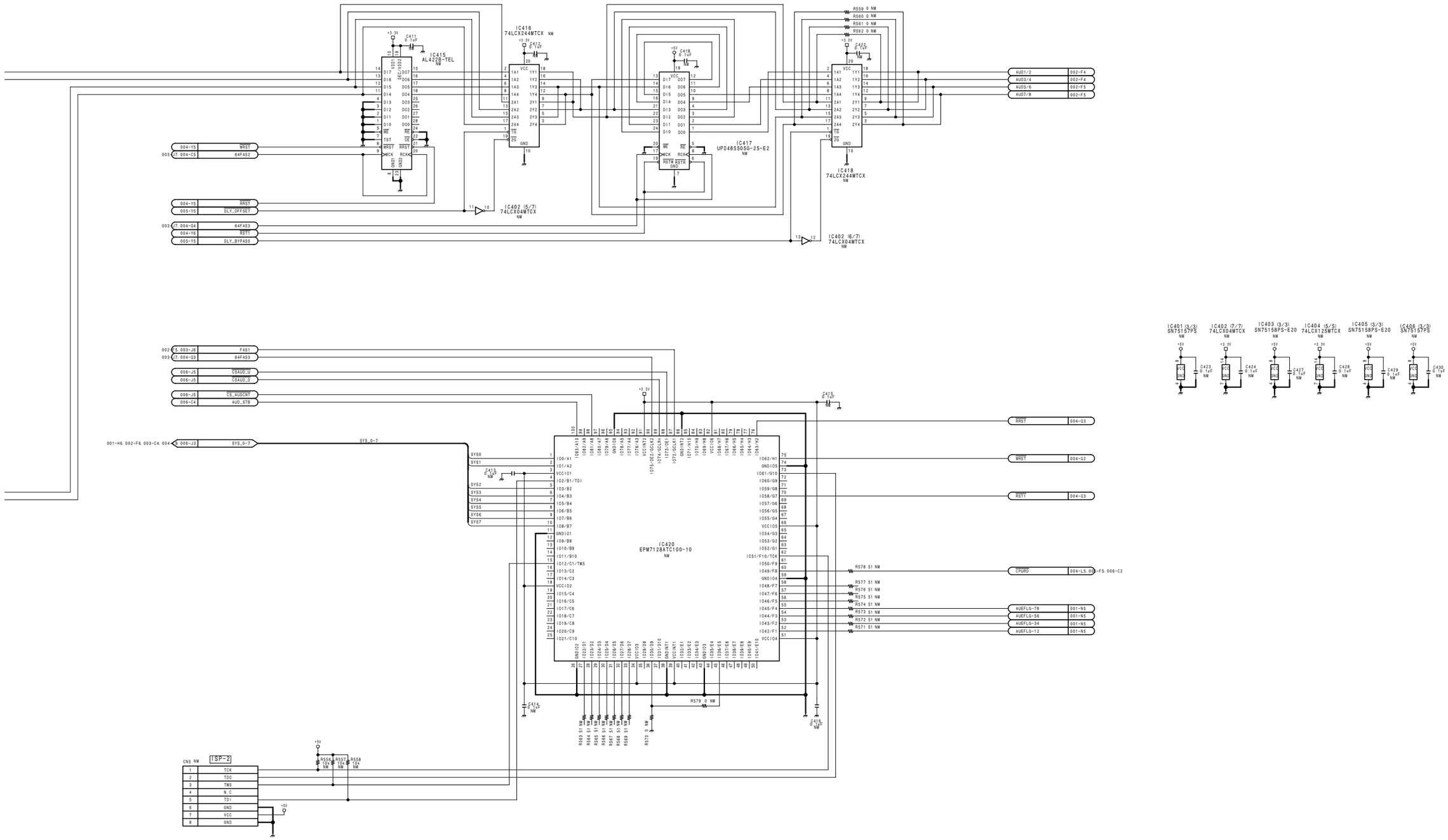
HKPF-103M_DPR-151C_003_3

DPR-151C (4/7)

HKPF-103M (UC J) : S/N 10101 and Higher



DPR-151C (4/7)



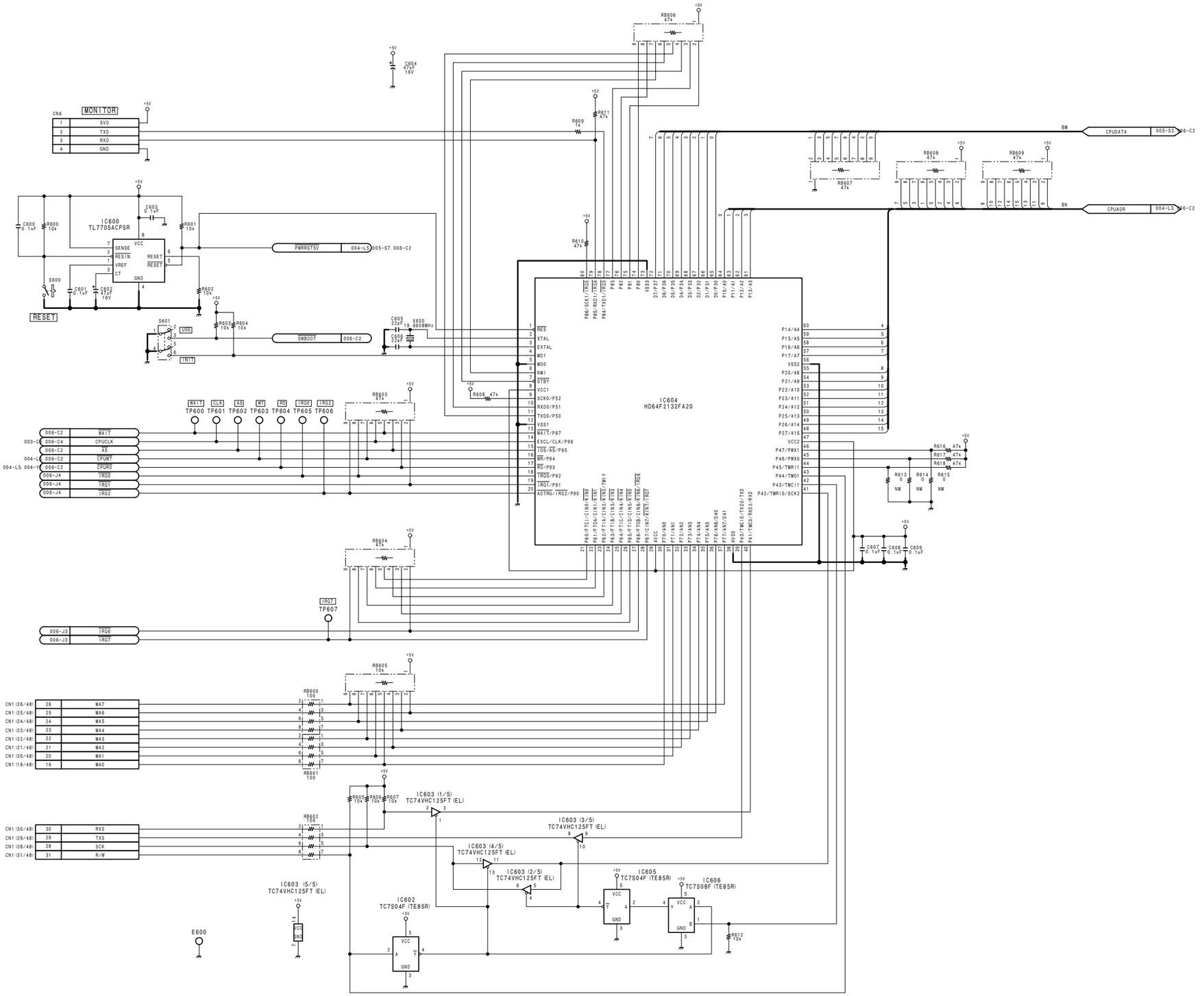
DPR-151C (4/7)

BOARD NO. 1-675-763-11

HKPF-103M_DPR-151C_003_4

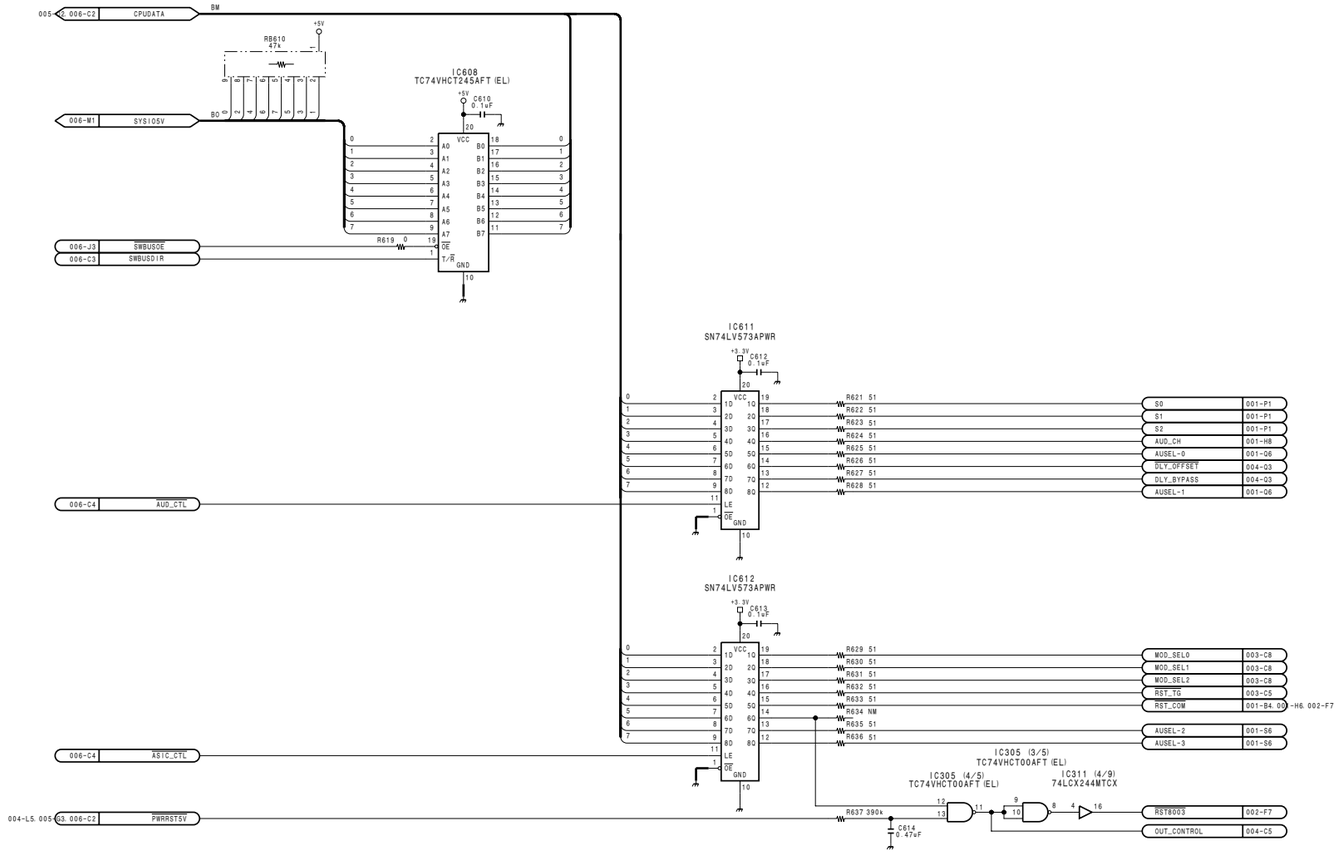
DPR-151C (5/7)

HKPF-103M (UC J) : S/N 10101 and Higher



6-10 6-10

HKPF-103M MM



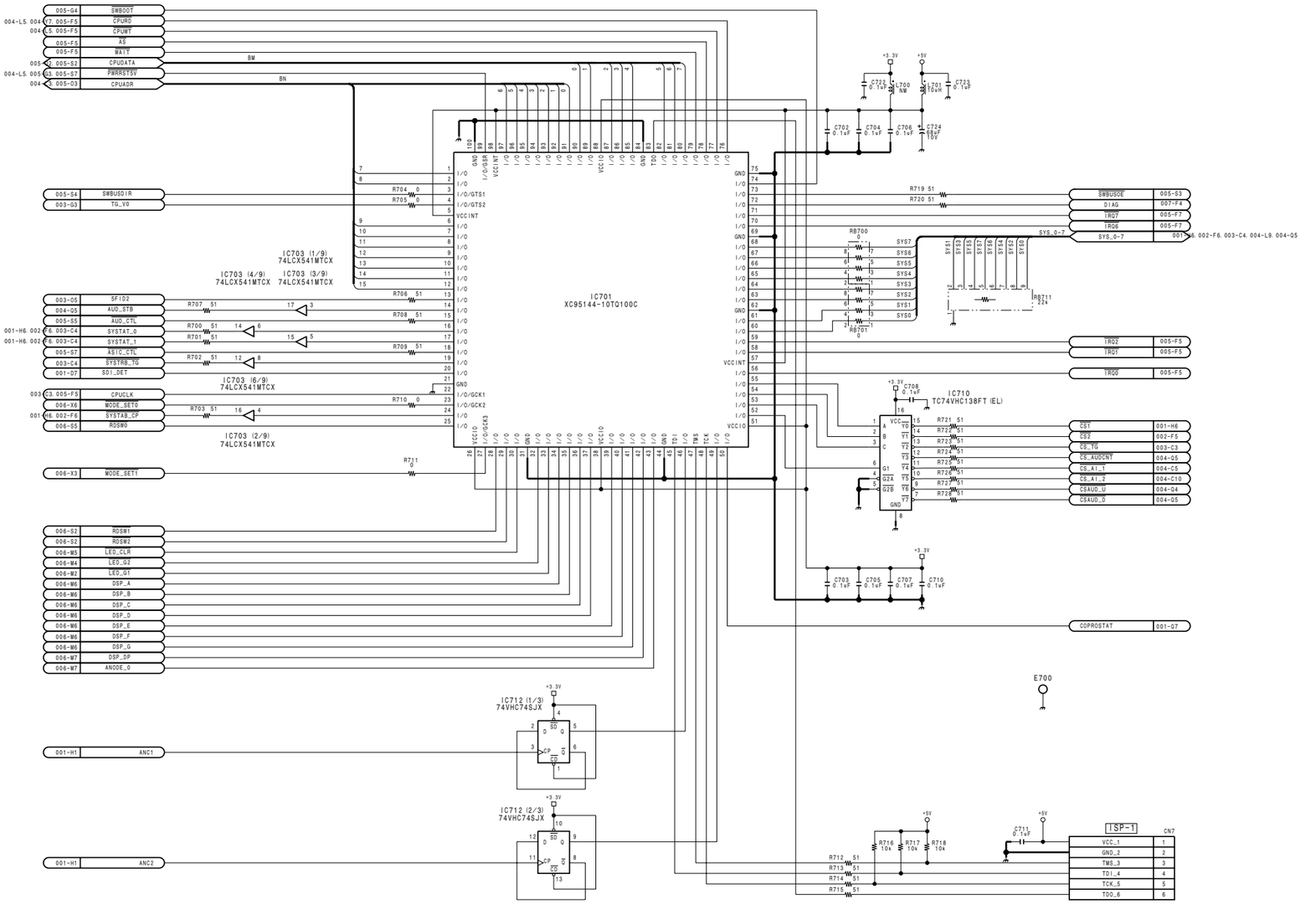
DPR-151C (5/7)

BOARD NO. 1-675-763-11

HKPF-103M_DPR-151C_003_5

DPR-151C (6/7)

HKPF-103M (UC J) : S/N 10101 and Higher



6-12

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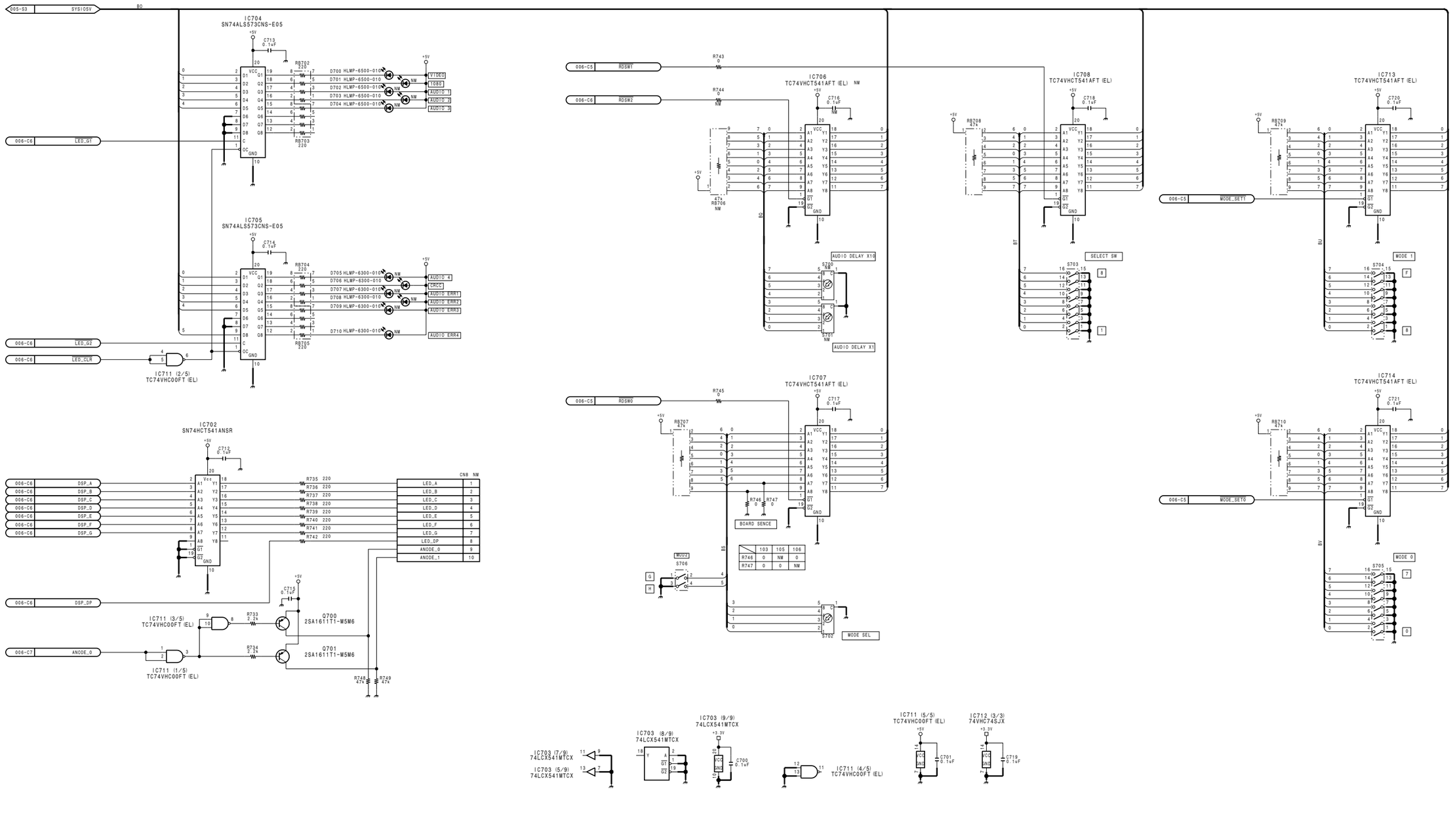


	103	105	106
R746	0	NM	0
R747	0	0	NM

	CN8	NW
LED_A	1	
LED_B	2	
LED_C	3	
LED_D	4	
LED_E	5	
LED_F	6	
LED_G	7	
LED_DP	8	
ANODE_0	9	
ANODE_1	10	

DPR-151C (6/7)

BOARD NO. 1-675-763-11

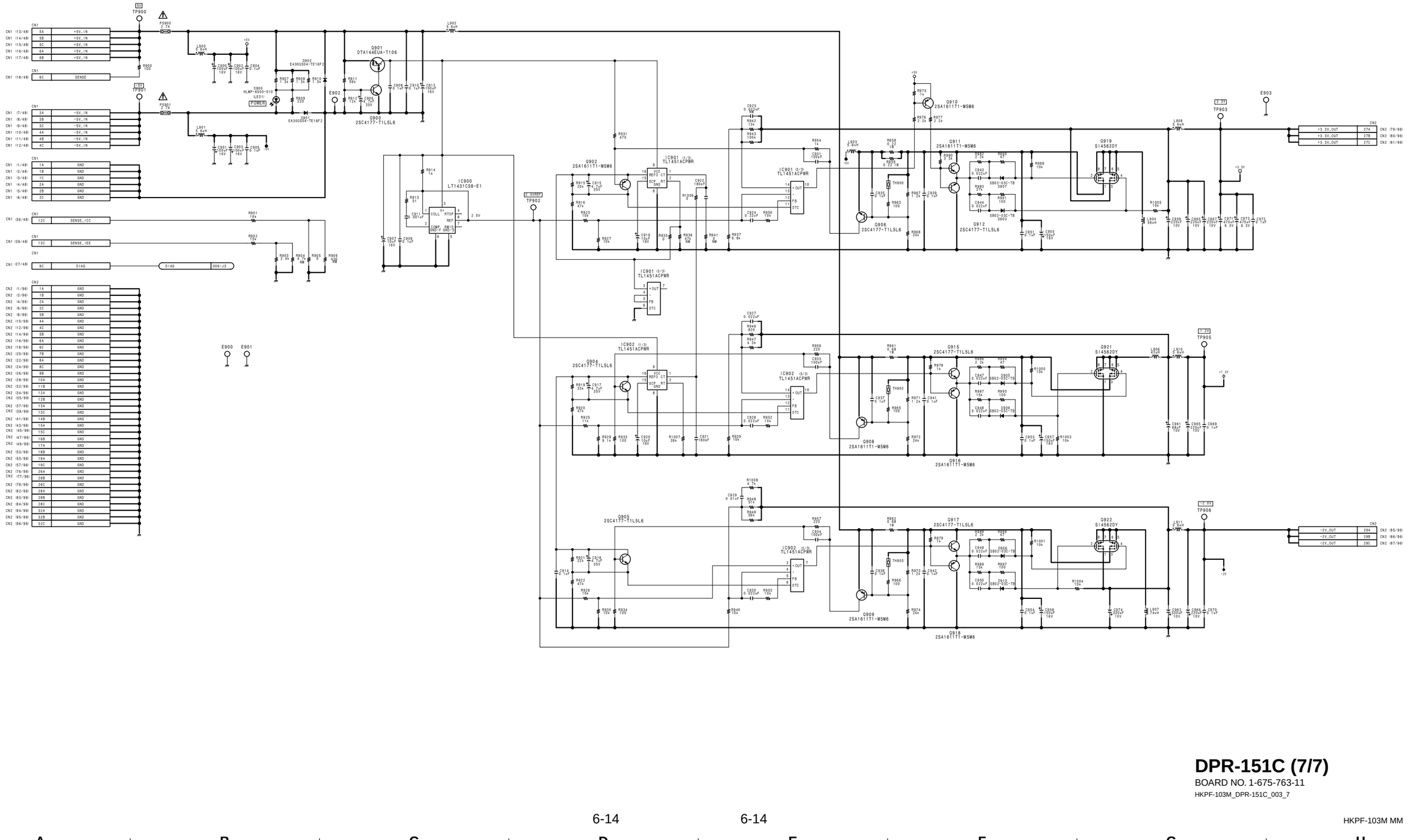
HKPF-103M_DPR-151C_003_6

HKPF-103M MM

6-13 6-13

DPR-151C (7/7)

HKPF-103M (UC J) : S/N 10101 and Higher

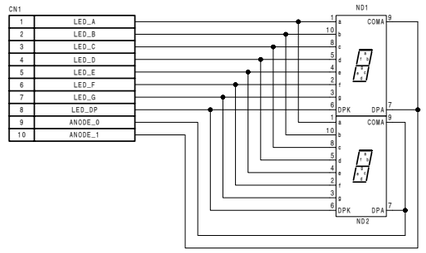


DPR-151C (7/7)

BOARD NO. 1-675-763-11

HKPF-103M_DPR-151C_003_7

HKPF-103M (UC J) : S/N 10101 and Higher

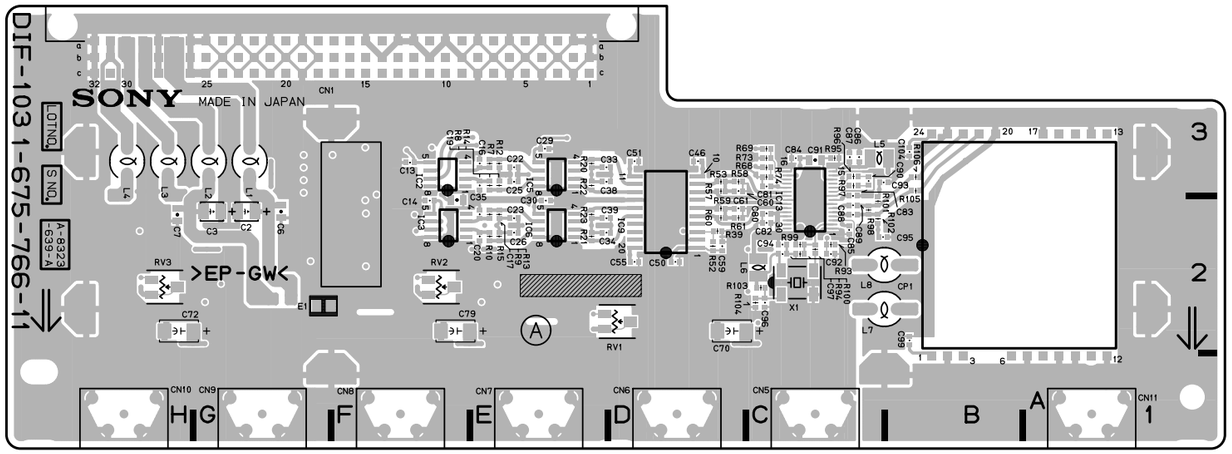


LED-345

BOARD NO. 1-675-764-11

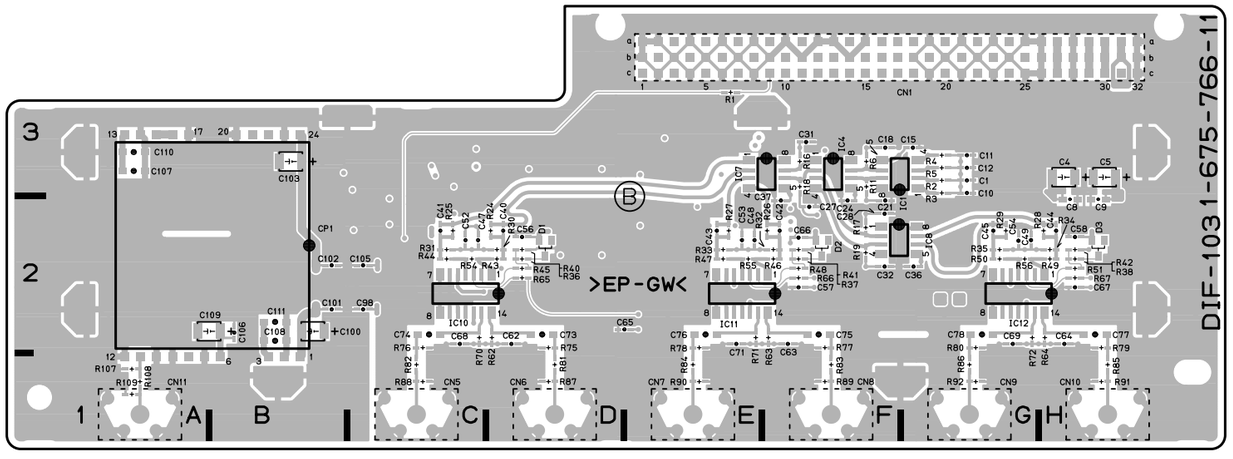
HKPF-103M_LED-345_002_1

Section 7
Board Layouts



HKPF-103M (UC J) : S/N 10101 and Higher

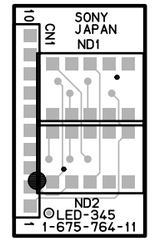
DIF-103 -A SIDE-
SUFFIX: -11



DIF-103 -B SIDE-
SUFFIX: -11

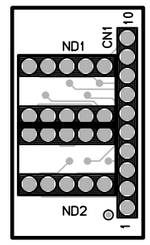
DIF-103 (1-675-766-11)

C1	*G3	C93	C3	R33	*E2
C2	G2	C94	C2	R34	*H2
C3	G2	C95	C2	R35	*G2
C4	*H3	C96	C2	R36	*D2
C5	*H3	C97	C2	R37	*F2
C6	G2	C98	*C2	R38	*H2
C7	H2	C99	B2	R39	D2
C8	*H2	C100	*B2	R40	*D2
C9	*H2	C101	*B2	R41	*F2
C10	*G3	C102	*B2	R42	*H2
C11	*G3	C103	*B3	R43	*D2
C12	*G3	C104	B3	R44	*C2
C13	F3	C105	*C2	R45	*D2
C14	F2	C106	*B2	R46	*F2
C15	*G3	C107	*A3	R47	*E2
C16	E3	C108	*B2	R48	*F2
C17	E2	C109	*A2	R49	*H2
C18	*F3	C110	*A3	R50	*G2
C19	E3	C111	*B2	R51	*H2
C20	E2			R52	D2
C21	*F2	CN1	F3	R53	D3
C22	E3	CN5	C1	R54	*C2
C23	E2	CN6	D1	R55	*E2
C24	*F2	CN7	E1	R56	*G2
C25	E3	CN8	F1	R57	D3
C26	E2	CN9	G1	R58	D3
C27	*F2	CN10	H1	R59	D2
C28	*F2	CN11	A1	R60	D2
C29	E3			R61	D2
C30	E2	CP1	B1	R62	*D2
C31	*F3			R63	*F2
C32	*F2	D1	*D2	R64	*H2
C33	E3	D2	*F2	R65	*D2
C34	E2	D3	*H2	R66	*F2
C35	F2			R67	*H2
C36	*G2	E1	G2	R68	C3
C37	*F2			R69	C3
C38	E3	IC1	*G3	R70	*C2
C39	E2	IC2	F3	R71	*E2
C40	*D2	IC3	F2	R72	*G2
C41	*C2	IC4	*F3	R73	C3
C42	*F2	IC5	E3	R74	C3
C43	*E2	IC6	E2	R75	*D2
C44	*H2	IC7	*E3	R76	*C2
C45	*G2	IC8	*F2	R77	*F2
C46	D3	IC9	D2	R78	*E2
C47	*C2	IC10	*D2	R79	*H2
C48	*E2	IC11	*F2	R80	*G2
C49	*G2	IC12	*H2	R81	*D1
C50	D2	IC13	C2	R82	*C1
C51	D3			R83	*F1
C52	*C2	L1	G3	R84	*E1
C53	*E2	L2	G3	R85	*H1
C54	*G2	L3	H3	R86	*G1
C55	D2	L4	H3	R87	*D1
C56	*D2	L5	C3	R88	*C1
C57	*F2	L6	C2	R89	*F1
C58	*H2	L7	B2	R90	*E1
C59	D2	L8	B2	R91	*H1
C60	D3			R92	*G1
C61	D2	R1	*E3	R93	C2
C62	*D2	R2	*G3	R94	C2
C63	*F2	R3	*G3	R95	C3
C64	*H2	R4	*G3	R96	C3
C65	*E2	R5	*G3	R97	C3
C66	*F2	R6	*F3	R98	C2
C67	*H2	R7	E3	R99	C2
C68	*C2	R8	E3	R100	C2
C69	*G2	R9	E2	R101	C2
C70	D2	R10	E2	R102	C2
C71	*E2	R11	*F3	R103	C2
C72	H2	R12	E3	R104	C2
C73	*D2	R13	E2	R105	B3
C74	*C2	R14	E3	R106	B3
C75	*F2	R15	E2	R107	*A1
C76	*E2	R16	*F3	R108	*A1
C77	*H2	R17	*F2	R109	*A1
C78	*G2	R18	*F3		
C79	F2	R19	*F2	RV1	D2
C80	C2	R20	E3	RV2	F2
C81	C3	R21	E2	RV3	H2
C82	C2	R22	E3		
C83	C2	R23	E2	X1	C2
C84	C3	R24	*D2		
C85	C2	R25	*C2	*:B SIDE	
C86	C3	R26	*F2		
C87	C3	R27	*E2		
C88	C2	R28	*H2		
C89	C2	R29	*G2		
C90	C3	R30	*D2		
C91	C3	R31	*C2		
C92	C2	R32	*F2		



HKPF-103M (UC J) : S/N 10101 and Higher

LED-345 -A SIDE-
SUFFIX: -11



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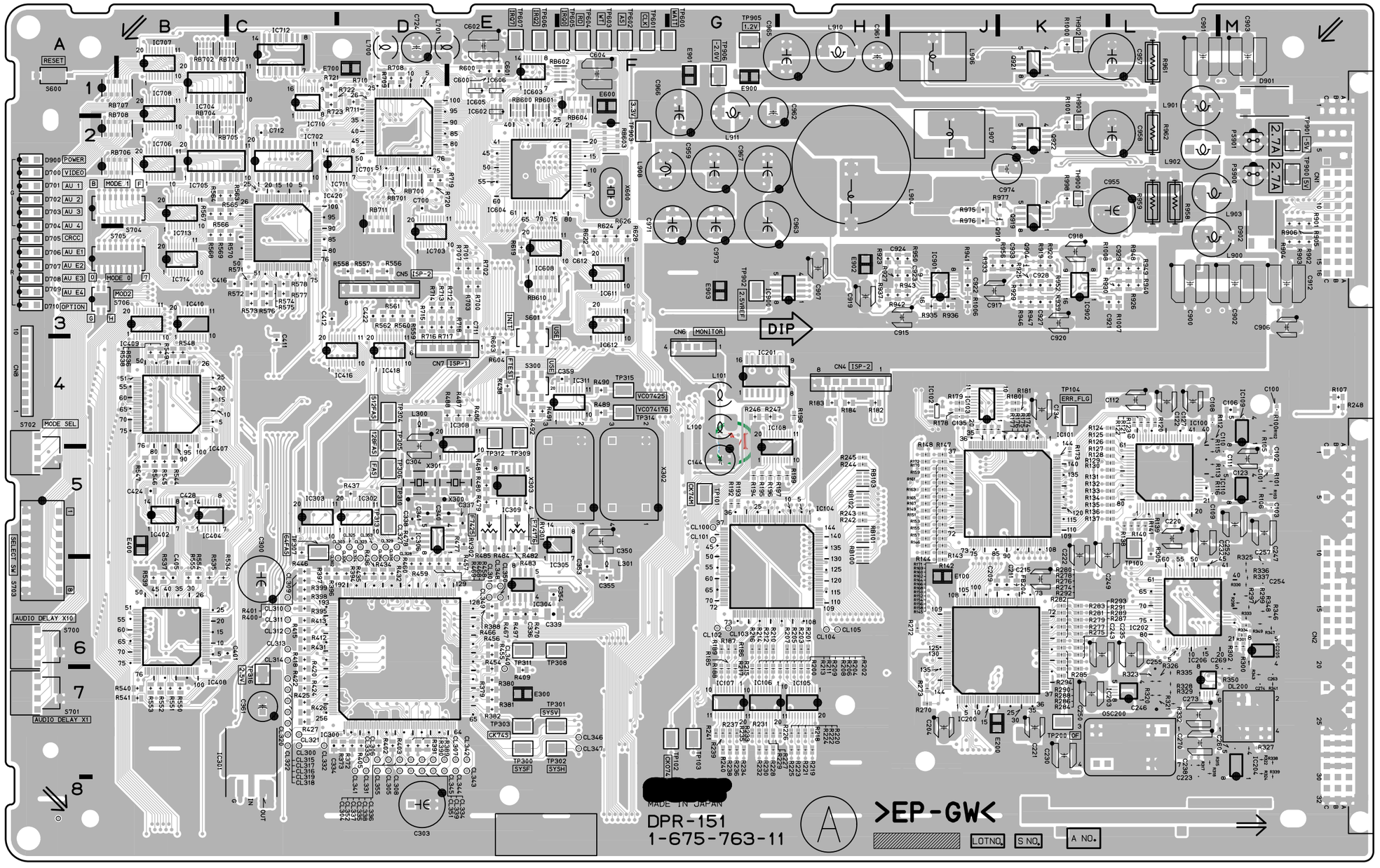
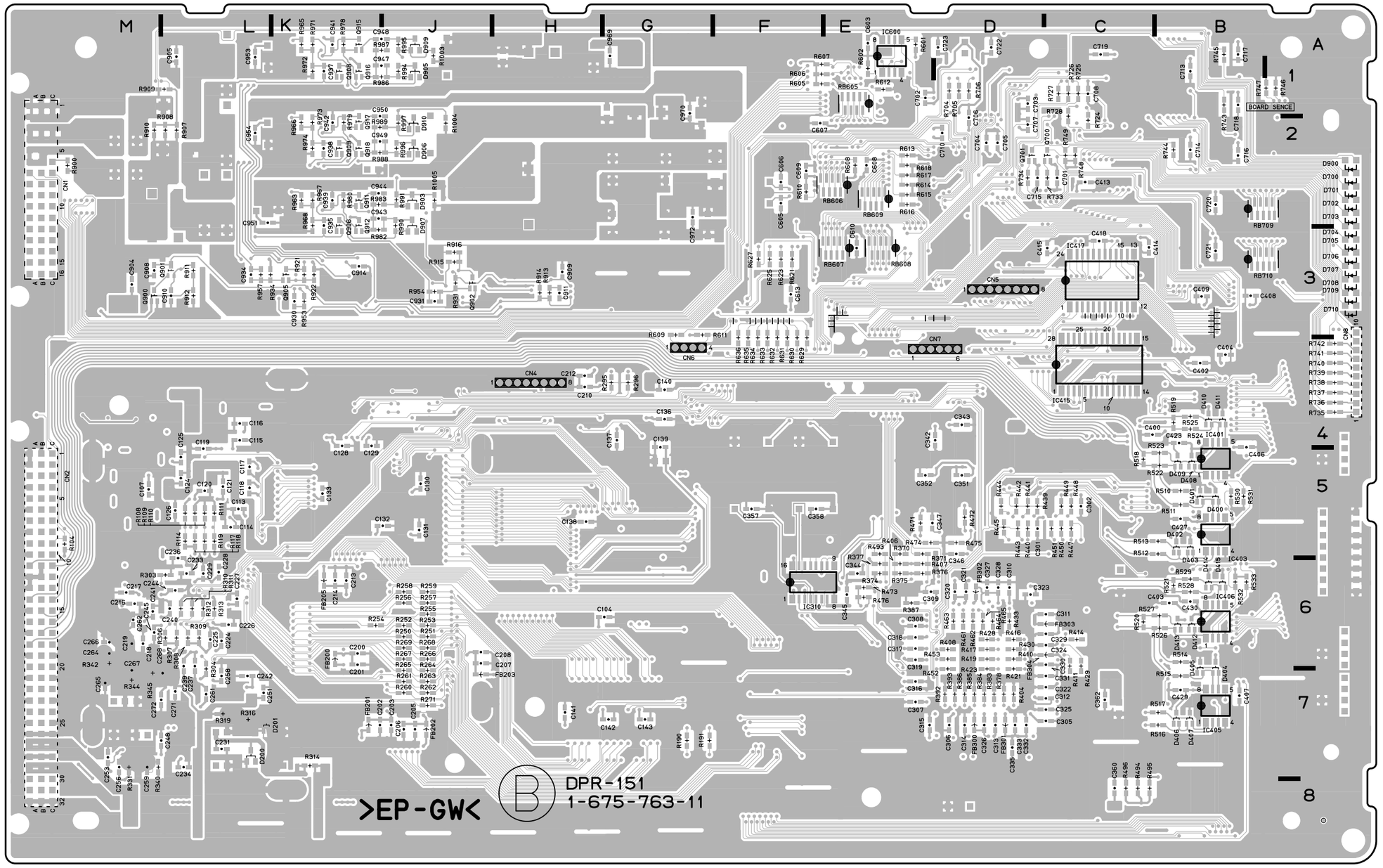
SUFFIX: -11



HKPF-103M (UC J) : S/N 10101 and Higher

DPR-151C -A SIDE-
SUFFIX: -11



Components location list; next page

DPR-151C -B SIDE-
SUFFIX: -11

DPR-151C (1-675-763-11)

C100	M4	C248	*L7	C405	B6	C943	*K2	CN5	D3	IC305	E6	R102	M4	R194	G5	R287	K6	R398	C6	R490	F4	R617	*E2	R931	*J3	S300	E4
C101	M5	C249	K5	C406	*B5	C944	*K2	CN6	G4	IC306	E5	R103	M5	R195	G5	R288	K6	R399	C6	R491	E4	R618	*E2	R933	J3	S600	A1
C102	M5	C250	K7	C407	*B7	C947	*K1	CN7	D4	IC308	D5	R104	*M5	R196	G5	R289	K6	R400	C6	R492	E4	R619	E3	R934	*L3	S601	E4
C103	M5	C251	*L7	C408	*B3	C948	*K1	CN8	A4	IC309	E5	R105	M4	R197	H5	R290	K6	R401	C6	R493	*E5	R621	*F3	R935	J3	S700	A6
C104	*G6	C252	M5	C409	*B3	C949	*K2			IC310	*F6	R106	M5	R198	H4	R291	K6	R402	D7	R494	*C8	R622	F3	R936	J3	S701	A7
C106	M4	C253	*M7	C411	C4	C950	*K2	D200	*L7	IC311	E4	R107	M4	R199	H5	R292	K6	R403	D7	R495	*C8	R623	*F3	R937	J3	S702	A5
C107	*M5	C254	M6	C412	C3	C951	*L2	D201	*L7	IC401	*B5	R108	*L5	R200	H7	R293	K6	R404	*D7	R496	*C8	R624	F3	R939	K3	S703	A5
C108	L4	C255	L7	C413	*C2	C953	*L1	D400	*B5	IC402	B5	R109	*L5	R201	H6	R294	K7	R405	D7	R497	E6	R625	*F3	R940	L3	S704	B2
C109	L5	C256	*M7	C414	*C3	C954	*L2	D401	*B5	IC403	*B5	R110	*L5	R202	H7	R295	*G4	R406	*E6	R510	*B5	R626	F3	R941	J3	S705	B3
C110	M5	C257	M6	C415	*C3	C955	L2	D402	*B5	IC404	B5	R111	*L5	R203	H6	R296	*G4	R407	*E6	R511	*B5	R627	*F3	R942	J3	S706	A3
C111	M5	C258	*L7	C416	C3	C957	L1	D403	*B5	IC405	*B7	R112	L4	R204	H7	R297	M6	R408	*D6	R512	*B5	R628	F3	R943	J3		
C112	L4	C259	*M7	C418	*C3	C958	L2	D404	*B6	IC406	*B6	R113	L5	R205	H6	R298	M6	R409	E7	R513	*B5	R629	*F4	R946	K3	TH900	K2
C113	*L5	C260	M7	C422	D3	C959	G2	D405	*B6	IC407	B4	R114	*L5	R206	H7	R299	M6	R410	*D6	R514	*B6	R630	*F4	R947	K3	TH902	K1
C114	*L5	C261	*L7	C423	*B4	C961	H1	D406	*B7	IC408	B6	R115	L5	R207	H6	R300	M6	R411	*C6	R515	*B7	R631	*F4	R948	L3	TH903	K2
C115	*L4	C262	*M6	C424	B5	C962	G1	D407	*B7	IC409	B4	R116	L5	R208	H7	R301	M6	R412	C6	R516	*B7	R632	*F4	R949	L3		
C116	*L4	C263	M7	C427	*B5	C963	G2	D408	*B5	IC410	B4	R117	*L5	R209	G7	R302	M6	R413	C6	R517	*B7	R633	*F4	R950	J3	TP100	L5
C117	*L5	C264	*M6	C428	B5	C965	H1	D409	*B5	IC415	*C4	R118	*L5	R210	G6	R303	*L6	R414	*C6	R518	*C5	R634	*F4	R952	K3	TP101	G5
C118	*L5	C265	*M7	C429	*B7	C966	G1	D410	*B4	IC416	C4	R119	*L5	R211	G7	R304	*L7	R415	C6	R519	*B4	R635	*F4	R953	*K3	TP102	G7
C119	*L5	C266	*M6	C430	*B6	C967	G2	D411	*B4	IC417	*C3	R120	L4	R212	G6	R305	L5	R416	*D6	R520	*C6	R636	*F4	R954	*J3	TP103	G7
C120	*L5	C267	*M7	C600	E1	C969	*G1	D412	*B6	IC418	D4	R121	L4	R213	G7	R306	*L6	R417	*D6	R521	*B6	R700	E3	R956	K3	TP104	K4
C121	*L5	C268	*L7	C601	E1	C970	*G1	D413	*B6	IC420	C3	R122	L4	R214	G6	R307	*L6	R418	C6	R522	*B5	R701	E3	R957	*L3	TP200	K7
C122	L4	C269	M7	C602	E1	C971	G2	D414	*B6	IC600	*E1	R123	L4	R215	G7	R308	*L6	R419	*D6	R523	*B5	R702	E3	R958	L2	TP300	E7
C123	M5	C270	L7	C603	*E1	C972	*G2	D415	*B6	IC602	E1	R124	L4	R216	G6	R309	*L6	R420	C7	R524	*B4	R703	E3	R959	L2	TP301	E7
C124	*L5	C271	*L7	C604	F1	C973	G2	D700	A2	IC603	E1	R125	L4	R217	G7	R310	*L6	R421	*D7	R525	*B4	R704	*D1	R961	L1	TP302	E7
C125	*L5	C272	*L7	C605	*F2	C974	K2	D701	A2	IC604	E2	R126	L4	R218	H7	R311	*L6	R422	C7	R526	*B6	R705	*D1	R962	L2	TP303	E7
C126	*L5	C273	L7	C606	*F2			D702	A2	IC605	E1	R127	L5	R219	H7	R312	*L6	R423	*D7	R527	*B6	R706	*D1	R963	*K2	TP304	D4
C127	L4	C274	M7	C607	*F2	CL100	G5	D703	A2	IC606	E1	R128	L5	R220	H7	R313	*L6	R424	C7	R528	*B6	R707	E3	R965	*K1	TP305	D4
C128	*K4	C300	C6	C608	*E2	CL101	G5	D704	A2	IC608	E3	R129	L5	R221	H7	R314	*K7	R425	C7	R529	*B6	R708	D1	R966	*K2	TP306	D5
C129	*K4	C301	*D5	C609	*F2	CL102	G6	D705	A3	IC611	F3	R130	L5	R222	H7	R315	L7	R426	C7	R530	*B5	R709	D1	R967	*K2	TP307	C5
C130	*J5	C302	*C5	C610	*E3	CL103	G6	D706	A3	IC612	F4	R131	L5	R223	H7	R316	*L7	R427	C7	R531	*B5	R710	D1	R968	*K2	TP308	E6
C131	*J5	C303	D8	C612	F3	CL104	H6	D707	A3	IC701	D2	R132	L5	R224	H7	R317	L7	R428	*D6	R532	*B6	R711	D1	R971	*K1	TP309	E4
C132	*J5	C304	D5	C613	*F3	CL105	H6	D708	A3	IC702	C2	R133	L5	R225	H7	R318	L7	R429	*C6	R533	*B6	R712	E3	R972	*K1	TP310	D5
C133	*K5	C305	*C7	C700	D2	CL300	C7	D709	A3	IC703	D3	R134	L5	R226	H7	R319	*L7	R430	*D6	R534	B6	R713	D3	R973	*K2	TP311	E6
C134	K4	C306	*D7	C701	*C2	CL301	E6	D710	A3	IC704	B1	R135	L5	R227	G7	R320	L7	R431	C6	R535	B6	R714	D3	R974	*K2	TP312	E4
C135	J4	C307	*E7	C702	*E1	CL302	D6	D900	A2	IC705	B2	R136	L5	R228	G7	R321	L7	R432	D6	R536	B4	R715	D3	R975	J2	TP313	D5
C136	*G4	C308	*E6	C703	*D1	CL303	D5	D901	M1	IC706	B2	R137	L5	R229	G7	R322	M7	R433	*D6	R537	B6	R716	D3	R976	J2	TP314	F4
C137	*G4	C309	*E6	C704	*D2	CL304	D7	D902	M2	IC707	B1	R138	L5	R230	G7	R323	L7	R434	D6	R538	B4	R717	D3	R977	K2	TP315	F4
C138	*H5	C310	*D6	C705	*D2	CL305	D7	D903	*J2	IC708	B2	R139	L5	R231	G7	R324	M7	R435	D6	R539	B6	R718	E3	R978	*K1	TP316	C7
C139	*G5	C311	*C6	C706	*D2	CL306	D7	D905	*J1	IC710	C2	R140	L5	R232	G7	R325	M6	R436	D6	R540	B7	R719	D2	R979	*K2	TP600	G1
C140	*G4	C312	*C7	C707	*D2	CL307	E7	D906	*J2	IC711	C2	R141	L5	R233	G7	R326	L7	R437	D5	R541	B7	R720	D2	R980	*K2	TP601	F1
C141	*H7	C313	*D7	C708	*C1	CL308	D7	D907	*J2	IC712	C1	R142	J6	R234	G7	R327	M7	R438	E4	R544	B5	R721	C1	R982	*K3	TP602	F1
C142	*G7	C314	*D7	C710	*D2	CL309	C6	D909	*J1	IC713	B3	R143	J5	R235	G7	R328	L7	R439	*D5	R545	B5	R722	C1	R983	*K2	TP603	F1
C143	*G7	C315	*E7	C711	E3	CL310	C6	D910	*J2	IC714	B3	R144	J5	R236	G7	R329	L7	R440	*D5	R546	B5	R723	C1	R986	*K1	TP604	F1
C144	G5	C316	*E7	C712	C2	CL311	C6			IC900	H3	R145	J5	R237	G7	R330	M6	R441	*D5	R547	B5	R724	*C2	R987	*K1	TP605	F1
C200	*K6	C317	*E6	C713	*B1	CL312	C6	DL200	M7	IC901	J3	R146	J5	R238	G7	R331	*M7	R442	*D5	R548	B4	R725	*C1	R988	*K2	TP606	E1
C201	*K6	C318	*E6	C714	*B2	CL313	C6			IC902	K3	R147	J5	R239	G7	R332	L7	R443	*D5	R549	B4	R726	*C1	R989	*K2	TP607	E1
C202	*K7	C319	*E6	C715	*D2	CL314	C6	E100	J6			R148	J5	R240	G7	R333	M6	R444	*D5	R550	B7	R727	*C1	R990	*J2	TP900	M2
C203	*J7	C320	*D6	C716	*B2	CL315	C7	E200	J7	L100	G4	R149	J5	R241	G7	R334	M6	R445	*D5	R551	B7	R728	*C2	R991	*J2	TP901	M2
C204	J7	C321	*D6	C717	*B1	CL316	C7	E300	E7	L101	G4	R150	J5	R242	H5	R335	L7	R446	C5	R552	B7	R733	*C2	R994	*J1	TP902	G3
C205	*J7	C322	*C7	C718	*B1	CL317	C7	E400	B5	L300	D4	R151	J5	R243	H5	R336	M6	R447	*C5	R553	B7	R734	*D2	R995	*J1	TP903	F2
C206	*J7	C323	*D6	C719	*C1	CL318	C7	E600	F1	L301	F6	R152	J5	R244	H5	R337	M6	R448	*C5	R554	B6	R735	*A4	R996	*J2	TP905	G1
C207	*J6	C324	*C6	C720	*B2	CL319	C7	E700	D1	L700	D1	R153	J5	R245	H5	R338	M7	R449	*C5	R555	B6	R736	*A4	R997	*J2	TP906	G1
C208	*J6	C325	*C7	C721	*B3	CL320	C7	E900	G1	L701	E1	R154	J5	R246	G4	R339	M7	R450	*C5	R556	D3	R737	*A4	R998	K2		
C209	J6	C326	*D7	C722	*D1	CL321	C7	E901	G1	L900	L3	R155	J5	R247	G4	R340	*M7	R451	*C5	R557	D3	R738	*A4	R1000	K1	X300	E5
C210	*H4	C327	*D6	C723	*D1	CL322	C7	E902	H3	L901	L1	R156	J5	R248	M4	R341	M7	R452	*D7	R558	D3	R739	*A4	R1001	K2	X301	D5
C211	K6	C328	*D6	C724	D1	CL323	D5	E903	G3	L902	L2	R157	J5	R250	*J6	R342	*M6	R453	*D6	R559	D3	R740	*A4	R1003	*J1	X302	F5
C212	*H4	C329	*C6	C900	L3	CL324	D6			L903	L2	R158	J5	R251	*J6	R343	M7	R454	E7	R560	D3	R741	*A4	R1004	*J2	X303	F5
C213	*K6	C330	*C6	C901	L1	CL325	D5	FB200	*K6	L904	H2	R159	J5	R252	*J6	R344	*M7	R455	E6	R561	D3	R742	*A4	R1005	*J2	X600	F2
C214	*K6	C331	*C7	C902	M3	CL326	D6	FB201	*K7	L906	J1	R160	J5	R253	*J6	R345	*M7	R456	E6	R562	D3	R743	*B1	R1006	J3		
C215	K6	C332	*D7	C903	M1	CL327	D5	FB202	*J7	L907	J2	R161	J5	R254	*K6	R346	M6	R457	E6	R563	C2	R744	*B2	R1007	L3	*:B SIDE	
C216	*M6	C333	*D7	C904	*M3	CL328	D6	FB203	*J7	L908	F2	R162	J5	R255	*J6	R347	M6	R458	E6	R564	B2	R745	*B1	R1008	L3		
C217	*M6	C334	C7	C905	*L1	CL329	D5	FB204	K6	L910	H1	R163	J5	R256	*J6	R348	M6	R459	D6	R565	C2	R746	*A1				
C218	*M6	C335	*D7	C906	M3	CL330	D6	FB205	*K6	L911	G1	R164	J5	R257	*J6	R349	M6	R460	D6	R566	B2	R747	*A1	RB100	H5		
C219	*M6	C336	E6	C907	H3	CL331	D7	FB300	*D7			R165	J5	R258	*J6	R350	M7	R461	*D6	R567	B2	R748	*C2	RB101	H5		
C220	L5	C337	E5	C908	*M3	CL332	C7	FB301	*D7	OSC200	L7	R166	J5	R259	*J6	R370	*E5	R462	*D6	R568	B3	R749	*C2	RB102	H5		
C221	K7	C338	D5	C909	*H3	CL333	D7	FB302	*D6			R167	J5	R260	*J7	R371	*E5	R463	*D6	R569	B3	R900	*M2	RB103	H5		
C222	K5	C339	E6	C910	*L3	CL334	D7	FB303	*C6	PS900	M2	R168	J5	R261	*J7	R372	D7	R464	*D6	R570	C3	R901	M2	RB600	E1		
C223	L7	C340	E5	C911	*H3	CL335	D7	FB304	*C6	PS901	M2	R169	J5	R262	*J7	R373	D7	R465	*D6	R571	C3	R902	M3	RB601	E1		
C224	*L6	C341	D5	C912	M3	CL336	D7					R170	J5	R263	*J7	R374	*E6	R466	E6	R572	C3	R903	M3	RB602	F1		
C225	*L6	C342	*D4	C914	*K3	CL337	D7	IC100	L5	Q700	*C2	R171	J5	R264	*J7	R375	*E6	R467	E6	R573	C3	R904	M3	RB603	F2		
C226	*L6	C343	*D4	C915	J3	CL338	D7	IC101	K5	Q701	*D2	R172	J5	R265	*J7	R376	*E6	R468	D6	R574	C3	R905	M2	RB604	F1		
C227	*L6	C344	*E6	C917	J3	CL339	D7	IC102	J4	Q900	*M3	R173	K5	R266	*J6	R377	*E6	R469	D6	R575	C3	R906	M2	RB605	*E1		
C228	*L6	C345	*E6	C918	K3	CL340	E7	IC103	K4	Q901	*L3	R174	K4	R267	*J6	R378	*D7	R470	E6	R576	C3	R907	*L2	RB606	*E2		
C229	*L6	C346	*D5	C919	H3	CL341	D7	IC104	G6	Q902	*J3	R175	J4	R268	*J6	R379	E7	R471	*E5	R577	C3	R908	*L2	RB607	*E3		
C230	K7	C347	*E5	C920	K3	CL342	E7	IC105	H7	Q904	K3	R176	J4	R269	*J6	R380	E7	R472	*D5	R578	C3	R909	*L1	RB608	*E3		
C231	*L7	C350	F5	C921	L3	CL343	E7	IC106	H7	Q905	*K3	R177	J4	R270	J7	R381	E7	R473	*E6	R600	E1	R910	*M2	RB609	*E2		
C232	L5	C351	*D5	C922	J3	CL344	E7	IC107	G7	Q906	*K2	R178	J4	R271	*J7	R382	E7	R474	*E5	R601	*E1	R911	*L3	RB610	E3		
C233	*L6	C352	*E5	C923	J3	CL345	D7	IC108	G5	Q908	*K1	R179	J4	R272	J6	R383	*D7	R475	*D5	R602	*E1	R912	*L3	RB700	D2		
C234	*L7	C353	F6	C924	J3	CL346	F7	IC109	M4	Q909	*K2	R180	K4	R273	J7	R384	*D7	R476	*E6	R603	E4	R913	*H3	RB701	D2		
C235	L6	C354	E6	C927	K3	CL347	F7	IC110	M5	Q910	K2	R181	K4	R274	K6	R385	*D7	R477	E5	R604	E4	R914	*H3	RB702	B1		
C236	*L6	C355	F6	C928	K3	CL348	E6	IC200	J6	Q911	*K2	R182	H4	R275	K6	R386	*D7	R478	D5	R605	*F1	R915	*J3	RB703	C1		
C237	*L6	C357	*F5	C929	L3	CL349	E6	IC201	G4	Q912	*K2	R183	H4	R276	K6	R387	*E6	R479	E5	R606	*F1	R916	*J3	RB704	B2		
C238	L7	C358	*F5	C930	*K3	CL350	E6	IC202	L6	Q915	*K1	R184	H4	R277	K6	R388	E6	R480	E5	R607	*F1	R919	K3	RB705	C2		
C239	*L6	C359	F4	C931	*J3	CL351	D7	IC203	L7	Q916	*K1	R185	G7	R278	K6	R389	D7	R481	E5	R608	*E2	R920	K3	RB706	B2		
C240	*L6	C360	*C8	C933	K3	CL352	D7	IC204	M7	Q917	*K2	R186	G6	R279	K6	R390	D7	R482	E5	R609	*G3	R921	*K3	RB707	B1		
C241	*M6	C361	C7	C934	*L3	CL353	D5	IC205	M6	Q918	*K2	R187	G6	R280	K6	R391	D7	R483	E5	R610	*F2	R922	*K3	RB708	B2		
C242	*L7	C362	*C7	C935	*K2	CL354	D6	IC206	L7	Q919	K2	R188	G7	R281	K6	R392	*D7	R484	E5	R611	*G3	R923	J3	RB709	*B2		
C243	K6	C400	*C4	C937	*K1	CL355	D7	IC300	D6	Q921	K1	R189	G6	R282	K6	R393	*D7	R485	E5	R612	*E1	R925	K3	RB710	*B3		
C244	*L6	C401	C6	C938	*K2			IC301	C7	Q922	K2	R190	*G7	R283	K6	R394	D6	R486	E4	R613	*E2	R926	L3	RB711	D2		
C245	*M6	C402	*B4	C939	*K2	CN1	M2	IC302	D5			R191	*G7	R284	K7	R395	C6	R487	E4	R614	*E2	R927	J3				
C246	L7	C403	*B6	C941	*K1	CN2	M6	IC303	C5	R100	M4	R192	G5	R285	K7	R396	C6	R488	E4	R615	*E2	R929	K3	RV301	E5		
C247	M5	C404	*B4	C942	*K2	CN4	H4	IC304	E6	R101	M5	R193	G5	R286	K6	R397	C6	R489	F4	R616	*E2	R930	L3	RV302	E5		

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